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PEPTIC ULCER: ITS TREATMENT BY THE ROENTGEN RAY*

BY EDWARD S. EMERY, JR., M.D.†

THE fact that exposure to Roentgen rays lowers the acidity of the gastric juice was discovered early in their use, and this soon led to a consideration of their possible utility in treating chronic ulcers of the stomach and duodenum. Certain European writers[1] have reported good results. In America, the subject has received little attention, although Portis and Ahrens[2] and Ivy[3] have done some animal experimentation. The beneficial results of treatment by Roentgen rays have been attributed to various causes. They may be due simply to the decreased acidity[4]. In Bryan and Dormody's[5] two patients the disappearance of pain followed the reduction in free hydrochloric acid. Lenk[6], however, explained the good results as due to relief of spasm. Lawrence[7] concluded that radiation had only slight effect on the enzymes as determined by Wohlgemuth's diastase test.

We have recently resorted to this form of treatment of certain patients with peptic ulcer who presented difficult problems in management. The results seemed sufficiently interesting to warrant a report.

REPORT OF CASES

CASE I. B. W., Medical No. 36332, a Russian Jew, 31 years old, entered the Peter Bent Brigham Hospital in December, 1927, four years after the onset of symptoms of ulcer. A radiographic examination showed a duodenal ulcer without obstruction. A gastric analysis revealed 90 points of free hydrochloric acid. At operation the pyloric antrum and first part of the duodenum were resected and a posterior gastrojejunostomy was done according to the Polya method. Six weeks later the patient had a return of pain two hours after eating, although a Roentgen ray examination was negative. In August, 1928 he entered the hospital for a second time because of a gastro-intestinal hemorrhage. Since that time similar hemorrhages have occurred every six months or oftener. He continued to suffer, one to three hours after meals, epigastric pain, which was relieved by food and alkaline powders. He had not worked for four years, being supported by the Jewish Charities. He was always pale and underweight.

It seemed worthwhile to try the effect of Roentgen ray treatment, and between April 28, 1930 and May 14, 1930 he was given six exposures. The following technique was used in this and all subsequent cases: Voltage 182 K.V.P. Skin-target distance, 40 cm. Current, 4 M.A. Filter ½ mm. Cu. and 1 mm. Al. The area treated was approximately 15x15 centimeters, although this varied somewhat, depending upon the size of the patient. The number of exposures and length of time varied somewhat in the different cases. This patient received 6 treatments of 15 minutes each, alternately through the front and back, over the stomach and duodenum. This is 75% of a full erythema dose. A full erythema dose with this technique equals 760 "r" measured in air.

On June 10, 1930, approximately one month later, the patient reported definite improvement in that his pain was less, his appetite better, and his weight had increased by two pounds. A second course of treatment was given from June 10, 1930 to June 27, 1930. On July 18, he had no free hydrochloric acid in the gastric contents after a fractional analysis, and the total acidity was 10. He was entirely free from symptoms then, and again on August 11, when he still had an achlorhydria. However, on August 28, two and a half weeks later, he reported slight epigastric distress, and a gastric analysis showed a free acidity of 5 and a total acidity of 15. September 26, the acid values were 34 and 46 respectively, and he was having pain of increasing severity. October 31, the acid values were 30 and 40, and the pain as bad as ever.

The patient requested further Roentgen ray treatment, since he had had the most comfortable four months in six years and for eight weeks had been entirely free from symptoms. Consent was given, to see if the same result could be obtained a second time. The exposures were from November 4 to 19. November 14, a gastric analysis showed 70 points of free hydrochloric acid and a total acidity of 76; his pain was not affected. November 21, a gastric analysis showed acid values of 43 and 62 and the pain was unchanged. November 28, the free acidity had dropped to 6 and the total acidity to 20; the pain was now slight and only occasionally present. December 5, there was no free hydrochloric acid, the total acidity was 7, and he was free from symptoms. December 19, the acid values were 12 and 26, and the pain had returned almost to its customary severity.

Radiation gave this patient definite, though temporary relief from distress. It did not change the course of the essential disease for he reëntered the hospital in September, 1931 with another copious hemorrhage.

CASE II. H. I. H., Medical No. 36535, a man of 40 with a story of ulcer extending over 15 years, was referred to me in February, 1930. Following two severe attacks of pain in 1926, a subdiaphragmatic abscess was said to have been drained. July, 1927 a gastroenterostomy was done, followed by relief for a year and a half. Symptoms returned late in 1928 and became so severe that he consulted Dr. David Cheever at the Peter Bent Brigham Hospi-

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tal. Operation was decided upon, due to failure of medical treatment to relieve, although a Roentgen ray examination showed the gastroenterostomy functioning "fairly well". After many adhesions had been separated, it was found that the jejunum had been brought under and over the colon, then drawn back through the gastrocolic omentum and united to the posterior wall of the stomach. In addition, a gastrojejunal ulcer was found which was not shown by the Roentgen ray. Dr. Cheever undid the previous operation, transected the pylorus, and performed the usual gastrojejunostomy. Following a stormy convalescence, due to bronchopneumonia, the patient was free from symptoms for two months. Pain then reappeared and by February, 1930 was intense. He entered the hospital a second time, when Roentgen rays revealed a gastrojejunal ulcer with a large crater. Dr. Cheever felt that the patient's condition did not permit further surgery and referred him to me.

At this time he was suffering intense and continuous pain which required morphine at night. He weighed only 110 lbs., although he was 6 ft. 1 in. tall. He was extremely nervous and profoundly worried over his economic situation. On a Sippy regimen his symptoms gradually disappeared, although the gastric acidity and the night secretion were controlled with the greatest difficulty. He was discharged to his home March 6, 1930, where he continued the treatment, spending most of his time in bed. He reported some relief and was allowed to resume moderate work at his urgent request. However, he quickly discarded moderation, neglected his diet, and by June his symptoms were as bad as ever. A Roentgen ray examination showed a "definite and marked spasm of the efferent jejunal loop and a crater 1 cm. in diameter just distal to the stoma, and a smaller crater about 1.5 cm. distal to this in the jejunum". An unsuccessful attempt was made to pass a Rehfuss tube through the stoma. He was put on constant drainage of the stomach at night, but this had to be discontinued because of pain and the development of alkalosis. I was thus confronted with a serious problem. Medical treatment, as thorough as the patient was ever likely to take, had proved unsuccessful. Dr. Cheever felt that surgery was out of the question because of the patient's general condition associated with the technical difficulties that would be encountered in the form of adhesions. Yet something must be done, and that soon, for the man's mental attitude was such that suicide might very possibly be attempted.

Encouraged by the result in Case I, I decided to try Roentgen ray treatment and, therefore, ¾ of an erythema dose was given from June 16, 1930 to June 23, 1930. For a few days the pain was worse. Then it began to subside and had disappeared completely by July 18. A gastric analysis on July 24 showed no free hydrochloric acid and a total acidity of 10. Roentgen rays revealed a normal stoma. The symptoms reappeared on August 12 and by September 23 were moderately severe. The free hydrochloric acid was then 57 with a total acidity of 75. X-rays showed a small crater at the stoma. The patient was so encouraged that a second treatment was decided upon and another ¾ of an erythema dose was given from September 23 to 27. The pain increased to October 6, but from that time to December 22, he was entirely free from symptoms. On January 5, they had returned and Roentgen rays showed a gastrojejunal ulcer.

These six months of respite from pain had accomplished much good. He weighed 132 lbs., his appetite was good, and he looked and felt much better. His mental attitude had changed completely, and he was willing to do anything that might result in a cure. In view of his improved condition, Dr. Cheever thought that it was reasonable to undertake further surgery, and in January, 1931 performed a Billroth operation, removing a large portion of the antrum. The patient has been well to the present (October, 1931).

Case III. W. C. E., Medical No. 38092, a 45-year-old negro, entered the medical service of the Peter Bent Brigham Hospital in December, 1930. He had first noticed the symptoms of ulcer in 1923, and a gastroenterostomy for a duodenal lesion was done in 1924. The symptoms returned in two years and became very severe in 1929. He entered the medical service six months later, the pain being almost continuous and interfering with sleep. He was nervous, irritable, and had obviously lost much weight. A gastric analysis showed a hypersecretion with a free hydrochloric acid of 77, and a total acidity of 90. A Roentgen ray examination showed a rather high stoma with a large gastrojejunal ulcer. A Sippy regimen accomplished little after 13 days. Eating induced nausea and more pain. Our experience with similar cases has shown that medical treatment requires a long time to make the patient comfortable and is often unsuccessful. As he was such a poor operative risk Roentgen ray treatment was decided upon.

An erythema dose was given from December 12 to 23. On December 27, a gastric analysis showed acid values of 55 and 63. The patient was allowed to return to his home on December 30, although his pain was worse. January 9, 1931 he was no better but he was improved after another week. The gastric acidity was then 10. A Roentgen ray examination showed the gastrojejunal ulcer to be better. There was only a small crater and no evidence of spasm. He failed to report again for observation until June, 1931, when he said that all pain had left him shortly after his previous visit. He had been eating everything, had gained 30 lbs. and was convinced that he was cured. A radiographic examination showed that "no barium was seen to empty through the pylorus but did empty rapidly through the gastro-enterostomy. No crater, fixation, or tenderness was demonstrable".

Case IV. B. S., Medical No. 38329, a 38-year-old Russian Jew, entered the Surgical Service in May, 1926. Two weeks before entry he developed a sharp knife-like pain in the epigastrium which caused him to double up and sweat, but lasted for only ten minutes. He continued to have gas with some distress after every meal. Pressure and soda relieved the symptoms but food did not. A roentgenographic examination showed a slight duodenal deformity, which was not interpreted as ulcer. His gastric contents had a free acidity of 90 and a total acidity of 105. He was discharged, but as his symptoms continued, he reëntered the Surgical Service in February, 1928. On this entry, a Billroth No. 2 was done. The pylorus and ulcer-bearing area of the duodenum were removed and a gastro-enterostomy was performed two inches from the stump. After the operation the free acidity was 55 and the total acidity 70. One month later, the patient experienced slight distress and a Roentgen ray examination was thought to be suggestive of a jejunal ulcer. He was started on a Sippy regimen, but difficulty was encountered in controlling the acidity. He returned to the hospital in November, 1930, having developed symptoms on a rather strict diet. His distress was now almost continuous and so severe that his physician had been giving him morphine. The Roentgen rays now showed a 30% residue in the stomach six hours after barium was given by mouth. The stoma appeared irregular, spastic and tender. December 8, the free acidity was 60 and the total acidity 65. He refused further operative treat-

ment and from December 11-22, he received an erythema dose of Roentgen ray. December 17, the free acid was 35 and the total acidity 45, and he was having severe pain. On December 27, the free acidity was 27 and the pain was as extreme as ever, but by January 4, the pain was definitely less. On January 21 the free acidity was 45 but the pain was not so troublesome. However, a diagnostic Roentgen ray examination still showed narrowing of the jejunum 2-3 cm. below the stoma. The patient was not seen again until April 17, at which time the free acidity was 26 and the total acidity 40. He had been pretty well for 3-4 weeks but recently the pain had been increasing. However, his general condition was better. He was urged to have another operation but again refused and has not been heard from since. It seems probable that another course of treatment would have given much greater relief, but it seemed wiser to urge surgery. The results in this case were not so satisfactory as in the other three cases, although the patient gave evidence of more improvement than would appear from the report.

Case V. A. J. H., O. D. D. No. 134000, a 28-year-old American, had a gastrojejunostomy for a duodenal ulcer in May, 1929. Shortly thereafter he complained of an occasional sharp pain near the umbilicus. He reported to the Out-Door Department in September, 1929 that he was troubled with attacks of prostrating epigastric pain. He was not seen again until April, 1931, when he reported that the distress occurred less often, although it was as severe as formerly. An examination by the Roentgen rays revealed that "the barium emptied fairly rapidly through the gastro-enterostomy, but there was narrowing and spasm of the efferent loop, and palpation revealed a crater about 1 cm. distal to the stoma". On May 15, a gastric analysis showed 69 points of free acid and a total acidity of 79. A Sippy regimen was unsatisfactory as the alkali disturbed his stomach. Further surgery was refused for economic reasons. He was, therefore, given ¾ of an erythema dose of x-rays from June 25 to July 9. Unfortunately, he did not return until August 28. He reported that for the first week he had a good deal of pain and nausea, but since then had been free from symptoms until very recently. His stomach contents at this time showed 30 points of free acid and a total acidity of 42. He was given another course of treatment, receiving ¾ of an erythema dose from September 4-12. The acidity fell from 37 on September 11 to 10 on November 6, and at present (December 10) he is still free from symptoms.

Case VI. L. T., Medical No. 35568, a 33-year-old Russian woman entered the Medical Service in September, 1929, having had abdominal symptoms for 18 years. The symptoms were less severe when she was careful of her diet but were always troublesome. Her physical examination was entirely negative, but roentgenograms showed a duodenal ulcer with a 50% retention. A gastric analysis showed a free acidity of 75. She was started on a Sippy régime, which she followed till the next spring. She then discontinued it and after a few weeks reported at the Out-Door Department because her symptoms had returned. She resumed a careful Sippy treatment, but a roentgenological examination done on October 15, 1930 again showed a duodenal deformity with two craters. Pain occurred from two to four o'clock in the morning and she had a large fasting secretion which at times reached as much as 250 c.c. before breakfast. An attempt to overcome the continuous secretion by means of nightly aspirations and "night powders" was not successful. It was, therefore, decided to try the effect of Roentgen ray therapy in overcoming a continuous secretion.

From October 25 to November 14, ten treatments were given of 10 minutes each, or 5/6 of an erythema dose each, anteriorly and posteriorly. The patient began to feel better almost immediately, but as there was little objective improvement, the effect may have been psychic.

Frequent gastric analyses were done and reported as follows: October 24, free acid 48; November 7, free acid 36; November 14, free acid 20, total acid 34. The fasting secretion may have been somewhat reduced in amount since on October 24 it was 250 c.c., and on November 14, it was 60 c.c. But if it was reduced, it increased in a short time, for on November 21, 155 c.c. were removed. For the next month the fasting secretion varied in amount from 100-200 c.c., and the free acidity ranged from 40-60.

On December 31, another series of Roentgen ray treatments were started and by January 14, an erythema dose had been given in six exposures. This more concentrated dosage seemed to be more effective. The fasting secretion was less, successive observations giving 30 c.c., 85 c.c., 100 c.c., and 17 c.c. The acidity was also more markedly reduced as shown by the following figures: January 2, free acidity 26; January 9, free acidity 4; January 16, free acidity 8; January 23, free acidity 8. The patient was also feeling distinctly better and was having no symptoms. Unfortunately, she left for the Middle West shortly afterward and has not been heard from. Although the findings are not conclusive, they suggest that x-ray therapy may be useful in bringing a continuous secretion under control.

Case VII. J. E. M., Medical No. 38644, a 28-year-old man, entered the Medical Service March 10, 1931, having had symptoms of ulcer for 3 years. His physical examination was essentially negative. An x-ray of the stomach showed a duodenal ulcer with a 30% retention and sluggish peristalsis. A gastric analysis revealed a free acidity of 138 with a total acidity of 154. A blood Wassermann test was positive. He was started on anti-luetic treatment and a Sippy régime. His gastric acidity was not controlled and for some reason no attempt was made to control it. A large retention persisted, but in spite of these facts he was discharged on April 8, four weeks after entering the hospital. He returned to the Out-Door Department in July, complaining of very severe pain at night. His powders were increased and an attempt was made to control the night secretion by nightly aspirations and large doses of alkali through the evening. All symptoms were relieved for two weeks, but they promptly returned when the night powders were stopped. Surgery seemed definitely indicated and he was strongly urged to have an operation, but refused. Roentgen ray therapy was then tried with the object of trying to overcome the night secretion. From September 25 to October 8, he was given three exposures anteriorly and two through the back, receiving approximately 60 per cent of an erythema dose. His gastric acidity dropped very definitely: October 2 it was 76; October 9, it was 42; October 23 it was 10. However, the pain which had been troubling him became definitely worse and on October 19 was severe. Four days later it was still very severe and was continuous. The patient was, therefore, sent to the wards. Two days after entering the hospital the ulcer perforated. At operation there was a large hole in the duodenum; otherwise, the tissues appeared normal.

Case VIII. A. F., Medical No. 29971, a 35-year-old Italian, entered the hospital April, 1927, having had

symptoms of ulcer for 2½ years. X-rays of the stomach showed a duodenal ulcer. Gastric analysis revealed an acidity of 45. Surgical treatment was advised because of the patient's social and economic status, and a Horsley pyloroplasty was done. He returned in August, 1927 because of symptoms due to a pyloric stenosis and a gastroenterostomy was performed. In September, 1929 he was still having symptoms, this time from a gastrojejunal ulcer. His gastric acidity was now 101. The stomach was resected above the gastrojejunostomy; an anterior gastrojejunostomy and an enteroenterostomy were performed. However, the patient continued to have pain below the xiphoid. He returned to the Medical Service where a physical examination was essentially negative except for considerable emaciation.

Because Roentgen ray therapy had given such good results in the postoperative cases II and III, it was determined to try it in this situation. Accordingly, an erythema dose was given from October 5 to October 20. The gastric acidity responded very satisfactorily; October 2, it was 27 and it had dropped to 9 on October 30. However, the patient continued to complain of pain, and on October 30 the symptoms were severe enough to prevent his taking a deep breath. Because a perforation developed in the previous case, it seemed wise not to take any chances. The patient was promptly sent into the wards and put on a Sippy régime. The pain continued for another week. After a two weeks' remission, symptoms recurred at night. Meanwhile his acid had begun to climb. November 6, it was 42 and November 21 it was 116. The usual amount of alkali was not completely neutralizing the gastric contents. An increase in the alkaline therapy resulted in complete neutralization and relief of symptoms.

DISCUSSION

Roentgen ray treatment of these eight patients produced a drop in the gastric acidity in all. After an initial tendency to increase, the acid values fell to zero in 5, and as low as eight points in 3 patients. Three to six weeks later, the acidity started to climb. This observation is in accord with the general belief that Roentgen rays first stimulate and then depress. In Cases VI and VII, it was hoped that the depressant effect would result favorably by overcoming a continuous night secretion which had not proved amenable to the usual methods of therapy. The results mildly suggest that this may be so, but the period of observation was too short in which to draw any definite conclusion.

The effect upon the pain varied. Five patients have been completely although temporarily relieved. In case IV, there was partial relief, and in cases VII and VIII the pain became somewhat worse. In cases IV and VIII there was atypical distress, which is occasionally encountered after gastric operations, and the nature of which is not entirely clear. In case VII there was ultimately perforation and as the pain did not change its characteristics under treatment, this symptom was probably due to a near perforation from the beginning. In the five cases where complete relief was established, the association between the amount of pain and the amount of free acid was striking. Whenever the acid values increased, the patients reported an exacerbation of pain; conversely, as the acid was reduced, the pain abated. None of the patients experienced any pain during the phase of achlorhydria. Although this observation does not rule out inhibition of spasm as the cause of relief, it does give strong support to the view that the pain of peptic ulcer is associated with the presence of free hydrochloric acid in the stomach. It should be mentioned, however, that Solomon[8] found that the alteration of symptoms did not parallel the acidity. Our experience does not explain whether the relief of pain in these patients is due to an inhibition of spasm or to the decrease in acidity.

The general condition of the first five patients was very definitely improved. Patient VI was in good condition before the treatment started. No change was noted in patients VII and VIII. In patients II, III and V there was definite improvement in the local condition as demonstrated by roentgenologic observations. Spasm disappeared or decreased. The craters disappeared or became much smaller. Much of the clinical improvement in the successful cases was undoubtedly due to the relief of pain. The patients were freed from the constant discomfort to which they had been subjected, and were able to obtain restful sleep, which, in cases II and III, at least, had been denied them for many months. They were able to eat more and gained in weight and strength. In cases II, III and IV, the condition before treatment was such as to make an operation a very hazardous undertaking. As a result of the improvement that followed, all three patients became very satisfactory operative risks.

However satisfactory the results may have been in these patients, it is well to mention that there are contraindications to this therapy. Improvement is likely to be of short duration, although other observers have reported long remission. The experiences recorded here have been only with patients that did not respond well to other treatments, and it is possible that a patient presenting the usual picture might benefit for a longer time. On the other hand, it is questionable whether x-ray treatment is justifiable in the average patient because of the untoward effects it may produce. Ivy, McCarthy and Orndoff[9] believe it is not justified. Even though no permanent harm may occur in the stomach, radiation may affect other organs such as the pancreas, kidneys and adrenals. For this reason, I have made it a rule not to subject these patients to more than two courses of treatment. One of the patients suffered from a perforation and one other gave cause for some worry along these lines. Although I do not believe that the perforation was the result of the treatment, yet it should serve as a warning

against the indiscriminate use of this form of therapy. It does not seem justifiable to use this treatment if other methods will produce satisfactory results.

SUMMARY AND CONCLUSIONS

Six patients with peptic ulcers of the jejunum and two with ulcers of the duodenum have been treated with the Roentgen rays. The results were satisfactory in four, questionable in two and unsatisfactory in two. In six, there was an increase in pain for a week to ten days; the pain then subsided. In four, there was a complete remission for a varying period of six weeks to several months. Two patients continued to have pain and in one of these, a perforation occurred. In all the cases there was a drop in the acid, and temporary achlorhydria developed in four. It was observed that in six patients the amount of pain and acidity roughly paralleled each other.

It is felt, as a result of the experiences with these cases, that x-ray therapy may be a useful adjunct to the treatment of peptic ulcer in a small, selected number of patients.

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COLLES FRACTURE

BY D. JOSEPH DUGGAN, M.D.*

PATIENTS always have and in all probability always will be bringing painful, swollen wrists, following injuries, to doctors for repair. It behooves us many times to relieve the patient's suffering and disability by immediate reduction of the wrist fracture, without delay for x-ray pictures, when we recognize the practically pathognomonic silver-fork and the rarer reversed silver-fork deformities of the really serious cases. For border-line cases with little change from the normal contour, the reasonable delay for x-ray confirmation is usually permissible. It is our object to present a way whereby one may have a linear guide for the reduction of the common Colles or the rarer wrist fractures such as the reversed Colles fractures.

In most cases a fracture of the radius within an inch of its distal end is caused by trauma applied so as to transmit a force from the thenar eminence through the carpus to the lower end of the radius. In a small percentage of cases patients fall, striking the back of the hand and transmitting a force which fractures the lower end of the radius and displaces the lower fragment forward and out, giving the reversed silver-fork deformity.

Of the three transverse skin furrows on the front of the wrist, the middle corresponds fairly accurately with the wrist-joint and with a line connecting the distal tips of the radial styloid process and the ulnar styloid process.

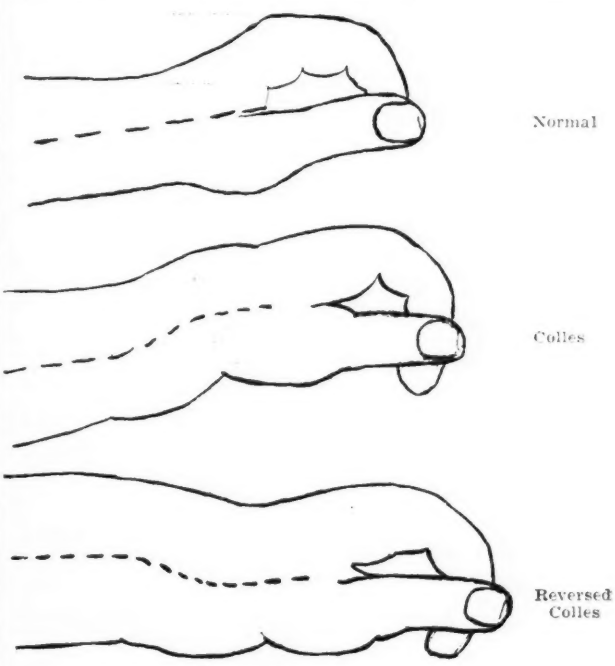

EXHIBIT NO. 1.

Normally the radial styloid is lower than the ulnar.

A line bisecting the forearm along its lateral aspect and passing on between the first and

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second metacarpal bones is a straight line normally. The distal end of the radius articulating with the carpal bones forms a slight angle with the line takes the shape of a silver fork. With anterior displacement the line is a silver fork reversed, and, in relation to the A-P line, the line along the articulating surface of the radius shows increased angles. In the Colles fracture we find that the posterior half of the line along the articulating end of the radius is proximal and the anterior half is distal in relation to the A-P perpendicular. With foreshortening of the radius, the line between the ulnar and radial

EXHIBIT NO. 2.

this line, so that in relation to an A-P perpendicular line, in the lateral view of the normal forearm the posterior half is distal and the anterior half proximal. If we bisect the forearm laterally in the typical Colles fracture cases styloids changes, the ulnar styloid being lower in relation to the radial styloid process. If these lines are marked with ink dots on the wrist before the reduction of Colles fracture, they will, with proper reduction, be restored to the

appearance they have on the normal wrist. It is quite striking and instructive to see the silver-fork line change to a straight line by a running together of the ink marks. With the foregoing in mind, we may obtain a clearer conception of the linear guide for the repair of wrist fractures from the accompanying reproductions of x-ray pictures. A normal wrist is shown with the line B-I bisecting the lateral view, the line A-R showing the articulating end of the radius and the line S-P from the ulnar to the radial styloid process. The corresponding lines are shown for comparison on the fracture cases.

The need for x-ray pictures following reduction exists to check on reduction and to give us medico-legal support. An excellent functional and anatomical result is to be expected following linear restoration to the normal of the fractured wrist provided, of course, that the patient receives proper after-care. Satisfactory reduction is a sine qua non in Colles fracture cases regardless of age or sex. It must be accomplished before splints are applied. Gas anesthesia is ideal for most cases. Pads, position or splints should not be relied on to remedy a poor reduction.

EXHIBIT NO. 2.

Splinting should protect the reduced fragments not alone against anterior or posterior displacement, but also against lateral spread. The retentive apparatus must give the fingers full liberty for free motion which should be encouraged from the beginning. Since recurrence of the deformity is so unlikely after satisfactory reduction, most of the after-care should be directed to the repair of existing soft part damage, and prevention of more by improper splinting. Patients should be seen within twelve to twenty-four hours following reduction and splinting to check soft part disturbances. Thereafter it is ideal to see the patient daily for guided physiotherapy—gentle massage at first and, after a few days, gentle active motion in the wrist joint. Subsiding of the tenderness in the callus is an

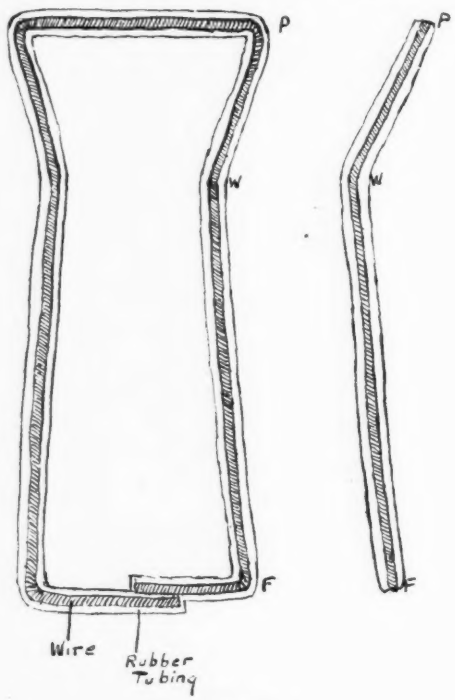

EXHIBIT NO. 3.

index of solidity of bony union which determines, to a certain extent, the time and vigor of physiotherapy. Heat is a valuable adjunct. The patient is usually grateful for a hot soak with a small handful of Epsom Salts in the water. Diathermy and other refinements in physiotherapy are of doubtful value unless given under the doctor's direct supervision.

The following method of splinting is recommended because it allows freedom of motion in the fingers, prevents lateral spread as well as anterior or posterior displacement, reduces the danger of soft part damage, and is easily removed and reapplied to allow for physiotherapy. Unlike the wooden splints which press on the anterior and posterior surfaces of the wrist and consequently on tendons, nerves, and vessels, most pressure with this splint comes on the two lateral surfaces of the wrist where it can cause no serious soft part damage. The amount of lateral pressure is easily controlled.

On the uninjured hand the width of the palm is measured and a steel rod ¼ inch or a little less in diameter is bent to a little more than right angles at the points marking the width of the palm. The distance from the mid-palmar line to the radial and ulnar styloid processes is next measured and the rod is bent again to an angle at these points to give a cock-up. The distance from the styloids to just below the elbow-joint is measured and the rod is bent again at right angles. The ends of the rod are cut to leave two pieces to cross the dorsal aspect of the upper forearm. This gives us a wire cock-up splint which we may represent diagrammatically. (Exhibit No. 3.)

The cock-up splint is used after the reduction of reversed Colles fractures. The cock-up splint upside down is used when the hand must be placed in palmar flexion. For the common Colles fracture cases the splint is used straight; that is, without a cock-up. When ulnar flexion is desired the wire is simply bent to allow the desired amount.

The wire is next threaded over with rubber tubing to make it more comfortable for the patient. The cut ends are then fastened together with a small strip of adhesive plaster. When the fracture is reduced satisfactorily, the patient's forearm to the carpus is enveloped in a generous sheathing of sheet-wadding. The splint is applied so that the hand grips the lower crosspiece with the thumb anterior and the rest of the hand posterior. The upper crosspiece fits across the dorsal aspect of the upper forearm.

Although the splint is now held by pressure and counter-pressure, a buckle and strap is applied at the wrist-joint and also at the proximal end of the splint around the upper forearm to give additional support. Refinements such as gauze bandaging and a sling may then be applied. This type of splinting is suitable for routine use also with most epiphyseal injuries at the distal end of the radius and with most carpal bone injuries.

SUMMARY

A linear guide for the reduction of Colles fractures is presented. The lines may be made by ink dots on the fractured wrist, for the graphic instructions of students or may be imaginary; that is, carried in the mind as an aid to reduction in the absence of x-rays. Proper reduction followed by satisfactory splinting and well-guided physiotherapy yields good results.

A new type of splinting is presented.

UNHAPPINESS AND MENTAL DISEASE*

BY DONALD GREGG, M.D.†

INTRODUCTION

IN his book "As God Made Them" my fellow townsman, Gamaliel Bradford, has written in his essay on Edwin Booth—"The most real of all human figures are the creations of the imagination." From my experience in psychiatry, I can paraphrase this and say the most poignant of human unhappiness is commonly dependent upon the creations of the imagination.

After nearly twenty years of close residence with mental cases, I am convinced that the majority of cases in mental hospitals are not unhappy—lay opinion to the contrary—and that unhappiness as a symptom usually justifies an optimistic, rather than a pessimistic prognosis, because great unhappiness is predicated upon a keen and active mentality.

To evaluate another's happiness is admittedly somewhat presumptuous and difficult. Most individuals resent being dubbed "happy" almost as readily as they do those other gratuitous insults such as having no sense of humor, of being without tact, or of never having experienced real pain. So many of our human activities, however, pivot on a pleasure-pain basis that a study of unhappiness seems worthy of attention.

Two phases of the subject have been considered in this paper.

First: The prevalence of unhappiness among mental cases in a small private hospital, in a larger semi-public hospital, in a large state hospital, and in a state school for the feeble-minded.

Second: The possible prognostic value of unhappiness.

In considering the subject some definition or explanation of the terms happiness and unhappiness is essential. Happiness has at least two elements. First; a spiritual or inner happiness rare in attainment and brief in duration. This is the element we resent having diagnosed or assumed by an outsider. Secondly; a contentment which is largely physiologic in origin and perhaps temperamental or congenital. This is the element commonly upset in psychiatric cases. The resulting unhappiness or discontent is commonly associated with physiologic disturbances such as increased irritability, poor sleep, distressing dreams, loss of appetite and weight. Possessing these objective signs of discomfort this element of unhappiness naturally can be more readily evaluated by an observer. To my knowledge no clear explanation has been offered for the observation that diseases affecting organs below the diaphragm are more commonly associated with depression than those affecting organs above the diaphragm. The depression accompanying jaundice, gall-stones, gastric ulcer, and intestinal trouble, is however, in marked contrast to the cheerfulness of the chronic cardiac case, or the euphoria, or "spes phthisica" of the pulmonary tubercular case. Possibly as in pain, acute contrast is an important element, and the shifting of a gall-stone presents an entirely different problem from the chronic discomfort of an embarrassed heart, or a handicapped respiration. Fortunately the human organism tends to make an adjustment to almost any type of pain or discomfort if it is of long standing and not intermittent in character.

The common denominator in etiology among psychiatric cases of unhappiness is a recognition of thwarting or threatened thwarting of the great instinctive drives along the lines of self-preservation, sex, or associated instincts. What is cart and what is horse, or whether the hen or the egg came first remains a matter for argument.

Among the manic depressive cases—the cacophoria—to use Dr. Southard's term to express the antithesis of euphoria—commonly assumes one of three types or a mixture of these types.

First: The restless, irritable, apprehensive, wakeful individual underweight and losing weight, often with accentuated pulse and increased blood pressure.

Secondly: The asthenic, hopeless, helpless, retarded individual without initiative or power of decision.

Thirdly: The psychasthenic individual, easily confused, retarded, mentally gummed up, often suggesting the catatonic.

Some of these cases in my experience are what might be called preclinical cases of somatic disease. At least some of them shortly after the premonitory symptom of discomfort, develop cancer, nephritis, or arteriosclerosis, not at first diagnosed by careful physical examination.

Other cases seemingly recover after a focal infection has been discovered and removed, but whether they do so any more often, or more rapidly than do cases that do not have their teeth pulled out, their tonsils removed, and their sinuses drained, is still a debatable point.

It is easy to speculate over these cases from the endocrinological angle and think of the first group as possibly hyper-thyroidal, suprarenal, or gonoidal; of the second group as hypo-thyroidal, suprarenal, or gonoidal; and of the third

*Presented at the meeting of the American Neurological Association, May, 1931.

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group as pituitary in origin, but this is speculation so far as my knowledge goes, as yet without clear evidence or proof either as to etiology or as to the value of glandular medication.

Another fascinating line of speculation is from the vitamin angle. Possibly some of these cases are avitaminotic in etiology. The seasonal curve of depressions and suicides in the northern and southern hemisphere is suggestive. Here again we are still merely in the field of speculation.

The physiological element of the disturbance seems to me unquestionable because of the periodicity of the attacks, often independent of environmental factors, because of the symptomatology which is so commonly worse in the morning and better at night, and in the woman almost always accentuated at the menstrual period, and because the course of recovery may be as abrupt as the crisis in pneumonia and not in any evident way conditioned by environmental factors. Having seen cases of depression recur after exhaustive analysis in this country and abroad, I am skeptical of the curative value of psychoanalysis with these cases.

Returning from this digression to the emotional tone of mental cases in general, it can be said that the condition of mental cases is so commonly shown by their conduct, and evidenced by expression, posture, gait, appetite, sleep, weight, and gastro-intestinal habits, that a diagnosis of a happy, unhappy, or oblivious, emotional state can often be easily ventured.

METHOD

A census of the cases in a small private hospital was taken month by month for eighteen consecutive months. These cases were checked as plus, minus, or zero. Plus represented the happy or euphoric cases. Minus represented the unhappy or depressed cases. Zero represented the individuals neither happy nor unhappy, seemingly uncaring or oblivious, or without emotional tone. Thus at the end of each month an attempt was made to gauge the prevalent emotional tone in the hospital. In so doing a given case might, during the eighteen months, be listed at one period as minus, later as zero, and finally as plus. These lists were checked independently by three observers, the superintendent, the resident physician, and the head nurse, who were personally familiar with every case.

At a larger semi-public hospital, thanks to the coöperation of Dr. K. J. Tillotson, a census was taken for three consecutive months, the cases being checked independently by three physicians.

At a state hospital, with the kind assistance of Dr. C. A. Bonner, a single census was taken; the male cases being checked by one physician, the female by a second physician.

With the aid of Dr. R. A. Greene a similar single census was taken at a state school for the feeble-minded. Here the data were supplied by different physicians from the different wards.

Although the technique varied in the different hospitals, the same definitions of the symbols were given to all the observers. All these data were worked out in percentages and averaged and are summarized in the following table:

	Priv. Hosp.	Semi-Pub. Hosp.	State Hosp.	F.-M. School	
+	25	43	48	82	
—	42	31	24	11	
0	33	26	28	7	
Number of observations	1848	1854	2030	1691	Total 7423
Dementia Precox Index	21%	36%	50%		

COMMENT

At the small private hospital equipment is inadequate for euphoric active cases of paresis, or alcoholism. Many relatively brief cases of depression are received. For economic reasons many chronic cases tend to move on to the semi-public or state hospitals. Consequently the percentage of chronic schizophrenic cases is smaller.

The social status of most of the cases in the private hospital is such that the contrast between their hospital quarters and their homes is unfavorable, whereas in the state hospitals many of the cases find their hospital status more secure and comfortable than the environment in the community from which they came.

These factors explain to a certain extent the varying figures in the four types of hospitals. The dominant factor, however, is the average social level. In general the social level and the intelligence level — meaning intelligence in a broad rather than a scholastic sense—run along together.

These figures seem to indicate that the lower the residual intelligence level, the lower is the percentage of unhappiness, and the higher the percentage of happiness; and that the higher the intelligence level, the higher is the percentage of unhappiness, and the lower the percentage of happiness.

In none of these types of hospitals, however, do the figures show a majority of unhappy cases. The majority are either happy or oblivious. Lay opinion is based largely on the reports of recovered depressed cases, and the opinion of a recovered patient regarding the environment occupied during his depression is open to question. Visitors to mental hospitals are naturally more forcibly impressed by the appearance and behavior of depressed cases.

Suicide may be considered in most mental cases as evidence of profound unhappiness. The diagnoses in the cases of suicides at the Massa-

chusetts State hospitals are shown in the following table:

SUICIDES IN MASSACHUSETTS STATE HOSPITALS FOR FIFTEEN YEARS
(1913-1928)

Total 192		Majority 97	
Favorable Prognosis		*Unfavorable Prognosis*	
Manic Depressive	76	Dementia Precox	41
Undiagnosed	10	Undiagnosed	16
Alcoholic	14	General Paresis	7
Situational Psychosis	1	Epilepsy	4
Involutional Melancholia	3	Imbecile	7
Neurasthenia	3	Psychosis with Arteriosclerosis	3
		Paranoid Condition	2
		Senile Psychosis	2
		Constitutional Psychopathic Inferiority	3
	107		85

COMMENT

Here the diagnosis of manic depressive insanity predominates. If to the manic depressive cases are added the alcoholics, the neurasthenics, a proportionate number of the undiagnosed cases, and some of the other cases of favorable prognosis, a majority of the cases can properly be grouped as recoverable cases. Suicide in mental disease is commonly an acute and early symptom rather than a late symptom in a chronic case. Were the data of the mental diagnoses of all suicides available, I believe the predominance of recoverable conditions would be much more marked than these figures indicate.

The highest recovery rate at the Massachusetts State hospitals is found among the alcoholics and the manic depressive cases. Among these two groups, also, are found most commonly frank disturbance of emotional tone in the direction either of elation or depression.

From this study of emotional tone based on over seven thousand observations, and from a study of the last report of the Massachusetts Commissioner of Mental Diseases, I believe that the following conclusions can be drawn:

First: The majority of cases in mental hospitals—even in hospitals receiving a large number of acutely depressed individuals—are not unhappy.

Secondly: Unhappiness in a hospital group varies directly with the general residual intelligence level.

Thirdly: The more the intelligence is impaired, the less unhappy is the patient likely to be, but the poorer is the prognosis in most cases.

Fourthly: The layman's estimate of the unhappiness in mental hospitals rests on biased sources of information.

Fifthly: Suicide in the majority of mental cases occurs among recoverable rather than non-recoverable cases.

Sixthly: In the majority of cases unhappiness is a symptom of favorable prognostic value.

THE MICRO METHOD FOR THE DETERMINATION OF BLOOD SUGAR*

BY OTTO FOLIN, PH.D.†

MY so-called *micro method* for the determination of blood sugar was first published in 1928[1]. This method has since been modified in several important details,[2, 3, 4] but in none of the later papers is the method described so completely as to require no consultation of the earlier articles. The aim of this paper is to give a concise but complete description of the method as we now use it.

Reagents:

1. *Sulphate-Tungstate Solution.* Transfer to a 500 c.c. volumetric flask 10 gm. of C. P. anhydrous sodium sulphate and 15 c.c. of 10 per cent sodium tungstate solution. Half fill the flask with distilled water and shake until the sulphate has dissolved. Dilute to volume and mix.

2. *Sulphuric Acid.* Transfer 12 c.c. of 2/3 N sulphuric and 2 gm. of anhydrous sodium sulphate to a 100 c.c. volumetric flask. Shake till the sulphate has dissolved, dilute to volume and mix.

3. *Potassium Ferricyanide Solution.* Dissolve 1 gm. of C. P. potassium ferricyanide in distilled water and dilute to a volume of 250 c.c. The major part of this solution should be kept in a brown bottle and in a dark closet. The part in daily use should also be kept in a brown bottle.

4. *Sodium Cyanide-Carbonate Solution.* Transfer 8 gm. of anhydrous sodium carbonate to a 500 c.c. volumetric flask. Add 40 to 50 c.c. of water and shake, to promote rapid solution. With a cylinder, add 150 c.c. of freshly prepared sodium cyanide solution, 1 per cent; dilute to volume and mix. It is easiest and best to prepare more sodium cyanide solution than is needed, and to throw away the unused portion.

5. *Ferric Iron-Gum Ghatti Solution.* Fill a liter cylinder with water. Suspend on a wire screen of copper or galvanized iron (just below the surface of the liquid) 20 gm. of gum ghatti,

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and leave overnight. Remove the screen, and strain the liquid through a double layer of a clean laboratory towel.

Dissolve in a 250 c.c. beaker by the help of heat, 5 gm. of anhydrous ferric sulphate and 75 c.c. of 85 per cent phosphoric acid in 100 c.c. of water. Cool this solution and add it, with stirring, to the strained gum ghatti solution. Finally, add to the mixture, a few c.c. at a time, about 15 c.c. of 1 per cent potassium permanganate solution. The purpose of the permanganate is to oxidize certain reducing impurities present in the gum ghatti. The slight turbidity of the solution will disappear completely if the solution is kept in a warm place (37°C) for a few days. This reagent keeps indefinitely.

6. *Standard Stock Solution of Glucose.* Dissolve 1 gm. of benzoic acid in about 300 c.c. of distilled, hot water. Weigh out exactly 980 milligrams of C. P. anhydrous glucose on a watch glass. Rinse the sugar through a funnel into a volumetric liter flask, by the help of the warm benzoic acid solution, add about 400 c.c. of distilled water, then cool to room temperature, and finally, make up to volume and mix. Transfer to a clean, dry, glass stoppered bottle. To clean the pipettes soak them in a saturated solution of sodium bichromate in concentrated sulphuric acid ("cleaning fluid") before rinsing.

This stock solution preserved with 0.1 per cent of benzoic acid will keep indefinitely. It is made to contain 0.98 mg. per c.c. instead of 1 mg. only in order to make the calculations easier.

From this stock solution one obtains the dilute working standard by diluting 1 c.c. to 100 c.c. By incorporating a little benzoic acid (no more than 25 mg.) into this solution, it will keep for a long time.

Besides the reagents described above, the following equipment is called for:

1. A *Colorimeter.* The biological colorimeter of Bausch and Lomb, with rack and pinion for each colorimeter cup is satisfactory.

2. A *Chalet lamp,* with a "daylite" light screen in one window and a yellow light filter in the other.

3. The *yellow light filter,* mentioned above, which we have used, is made by impregnating filter paper with an acid picrate solution[3], but its preparation is not described here because a more permanent light filter of frosted yellow glass is now in process of manufacture by the Spencer Lens Company, at Buffalo, N. Y. The sample glass sent to me for examination was quite satisfactory.

4. *Micro blood pipettes.* These pipettes are made to contain (not to deliver) 0.1 c.c. and 0.2 c.c. Excellent pipettes, of the kind I use, can be obtained from Eimer and Amend, New York City. A liberal supply of these pipettes is desirable, for they should always be available in dry and absolutely clean condition. If they are perfectly clean, they fill quickly and easily by capillary attraction, i.e., without any suction.

5. *Lancets.* The best and most durable spring lancet for pricking a finger or an ear is the U. S. Army lancet (Arthur Thomas Catalogue, number 3644).

6. *Test tubes* graduated at 25 c.c.

7. *Centrifuge* and *15 c.c. centrifuge tubes.*

8. *Volumetric pipettes,* capacity 4 c.c., or so-called "Folin blood pipettes," capacity 5 c.c., graduated to the tip in 1 c.c. divisions.

The Determination. Transfer to a clean dry centrifuge tube 4 c.c. of the sulphate-tungstate solution (Reagent No. 1). Prick a finger with the lancet, and collect exactly 0.1 c.c. of blood, by means of the micro blood pipette. Transfer at once (before clotting has had time to occur) to the solution in the centrifuge tube. Rinse the pipette two or three times (by suction) and stir a little with the pipette. Let stand for about 15 minutes, or longer if convenient. Then add 1 c.c. of the acid sulphate solution (Reagent No. 2) and stir with the micro pipette still in the centrifuge tube, or with a fine glass rod. Centrifuge for 5 minutes.

Transfer 2 c.c. of the water clear supernatant solution in the centrifuge tube and also 2 c.c. of water to a 25 c.c. test tube graduated at 25 c.c. And to another similar test tube add 4 c.c. of the standard dilute glucose solution. Add to each tube 1 c.c. (or 2 c.c.) of the 0.4 per cent potassium ferricyanide solution (Reagent No. 3) and then add to each 1 c.c. of the cyanide-carbonate solution (Reagent No. 4). Heat both test tubes together in a beaker of boiling water for 8 minutes, cool, and to each tube add 5 c.c. of the ferric iron-gum ghatti solution (Reagent No. 5).

Dilute the contents of the tube to 25 c.c. and mix. Make the color comparison in the usual manner, always first reading the standard against itself, and never omitting to make use of the yellow light filter. When the standard is set at 20 mm., 20 ÷ x times 100 gives the sugar value in mg. per cent.

It will be noted from the above brief description how simple the determination is when one once has acquired the necessary reagents and equipment.

One detail in the determination has been left to the experience of the worker. He has been given the choice of using 1 or 2 c.c. of the potassium ferricyanide solution. If 1 c.c. is used, the results are a little more accurate, particularly if the blood happens to be low in sugar. On the other hand, if only 1 c.c. is used, the determination is dependable only up to a little over 300 mg. per cent, and if more than this

amount is found, the determination should be repeated with 1 c.c. of the blood extract plus 3 c.c. of water. When 2 c.c. of potassium ferricyanide are used, one single determination will cover the range from far below 100 to over 500 mg. per cent, but the highest values so obtained will tend to be a shade too low, and the lowest values a trifle too high. The reason for this is that the blank (auto-reduction of the ferricyanide) is appreciably stronger when 2 c.c. are used.

Those who are easily puzzled by calculations may find it a little difficult to understand why the dilute standard glucose solution is made to contain 0.0098 mg. of glucose per c.c., instead of 0.01 mg. The reason for this procedure is that 0.1 c.c. of blood is diluted to a volume of 5.1 c.c. instead of 5 c.c. Since 5.1 is 2 per cent greater than 5, the standard glucose has been made 2 per cent weaker than 0.01. The calculation can then be made as if the standard contained 0.01 mg. per c.c., and as if 0.1 c.c. of blood had been diluted to 5 c.c.

The blood sugar values obtained by this micro method are very close to the true glucose values of the blood.

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THREE EPISODES IN MEDICAL EDUCATION AT MIDDLEBURY COLLEGE [1810-1837]

BY FREDERICK C. WAITE, PH.D.*

WHEN, in the final year of the eighteenth century, Middlebury College received her charter, medical colleges were still a novelty in the United States, the first having been founded at Philadelphia in 1765.

In 1800 there were six existing medical colleges in the country, of which five were active. These were the medical departments of the University of Pennsylvania (1765); of Columbia (formerly King's) College (1767); of Harvard University (1782); of Queen's (now Rutger's) College (1792); of Dartmouth College (1798), and of Transylvania College at Lexington, Kentucky (1799). The medical instruction in New York City under Queen's College was suspended from 1793 to 1812. There was also the beginning of a medical department at the College of William and Mary in Virginia, but it never reached a full organization.

It will be noted that two of the five active medical schools were in New England and that each of the six schools was connected with a college of arts and science.

In the first decade of the nineteenth century there appeared two medical schools independent of any connection with a classical college. Both were organized in 1807 under the auspices of medical societies. These were the College of Physicians and Surgeons in New York City and the Maryland Medical College in Baltimore, making a total of eight medical schools before 1810.

It was with this background that we find in 1810 the earliest participation of Middlebury College in medical education. In that year that college established what would have been the ninth medical college in the United States and which would have supplemented the law department organized at Middlebury by Daniel Chipman in 1806.

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THE FIRST EPISODE

The records of the corporation of Middlebury College of October 10, 1810, carry the following minutes:

> "Voted to establish a medical department in the College.
>
> Voted to proceed to elect a Professor of Anatomy, Surgery and the Theory and Practice of Physick. Dr. Nathan Smith of Hannover was unanimously chosen Professor of the afsd branches.
>
> Voted that Doctor Smith receive the salary of Two Hundred and Twenty Dollars annually in quarter yearly payments.
>
> Voted to elect a committee of one to prepare a Lecture Room and assist Dr. Smith in obtaining a house for his family. Hon. Gam'l Painter was chosen for this committee
>
> Voted to appoint a committee to be associated with Doctor Smith to frame a system of laws for the Medical Department and report to the next meeting of the corporation. President Davis and Horatio Seymour and Daniel Chipman Esquire were chosen on the committee
>
> Voted that the above committee be directed to make inquiries for some suitable person to be elected as Professor of Chemistry and ascertain upon what terms he may be obtained and to make arrangements for the establishment of a Chemical Professorship"
>
> (In the foregoing quotation the capitalization and abbreviations of the original are maintained.)

Here in a single special meeting of the corporation there was established a medical department, a medical faculty of one man was unanimously elected, his salary set and authorized, arrangements were started to secure a lecture room and to secure a house for Dr. Smith's family, then consisting of his wife and

eight children, the eldest thirteen years of age. In addition, steps were taken toward securing a professor of chemistry as a second member of the medical faculty. In the present day a medical faculty of two may seem small, but in that year (1810), when Harvard Medical College removed from Cambridge to Boston, it had but three members on its faculty after twenty-eight years of operation.

To understand the probable incentives for this rapid and comprehensive action by the corporation, it is necessary to summarize a bit of the history of Dr. Nathan Smith and of the medical school at Hanover, New Hampshire. Nathan Smith (1762-1829) held from Harvard the degree of Bachelor of Medicine (1790) and from Dartmouth the degrees of Master of Arts (1798) and Doctor of Medicine (1801). He had spent nearly a year in medical study in Edinburgh and London and was a corresponding member of the Medical Society of London.

He began teaching at Dartmouth in 1797. In 1798 he was made a professor there and the medical school was established. With the exception of the years 1798-1800, when one of his former students gave the lectures on chemistry, and the year of 1808, when a visiting professor gave the lectures on anatomy, Dr. Smith had for thirteen years done all the teaching of medical students at Hanover. In the phraseology of the comment of Dr. Oliver Wendell Holmes on this situation, Dr. Smith occupied not a chair, but "a settee of professorships."

His teaching had given him the reputation of being the most popular medical teacher in New England and Dartmouth had more medical students than Harvard at this time.

But all was not to Dr. Smith's liking at Hanover. He had a salary of two hundred dollars a year, first voted in 1804. Thus the salary offered by Middlebury was an increase of ten per cent. and larger by that increase than the salary voted at Middlebury in 1817 to Nathaniel Chipman as Professor of Law, a salary which was "not to be paid if he have as many as sixteen students."

At Hanover Dr. Smith had been trying to secure the erection of a building for the medical department and obtain assistance in his teaching. The records of the Dartmouth corporation of August, 1809, show that it was "Voted that the proposal of Dr. Nathan Smith respecting Medical Lectures be postponed." This is but an instance of the delays due to the lack of unanimity among the Dartmouth trustees, which was a reflection of the evenly balanced political parties of the state and ultimately led to the famous Dartmouth case where Daniel Webster made one of his greatest pleadings.

Under date of May 14, 1810 Dr. Smith wrote to his friend and former pupil, Dr. George Cheyne Shattuck of Boston, "I have at length determined to leave Hanover, but at present have not concluded on any certain place of future residence." It seems probable that knowledge of this purpose of Dr. Smith had reached some member of the Middlebury corporation, who saw the opportunity to secure the most popular medical teacher in New England and to make at Middlebury the only medical school, except Harvard, in New England and, with the same exception, the only medical school north of New York City, for it is highly probable that the medical teaching there would have ceased if Dr. Smith had left Hanover.

However since Dr. Smith's letter of May fourteenth, conditions had been somewhat ameliorated. The records of the Dartmouth trustees of August, 1810, carry the appointment as Professor of Anatomy of Cyrus Perkins, M.D., a former pupil of Dr. Smith. No mention is made in these records of that date of the medical building, but from some stimulus, perhaps the call from Middlebury, the erection of the medical building was begun and was well along in the spring of 1811 and completed in the autumn of that year.

The Middlebury records carry no further reference to Dr. Smith, but we know he remained at Dartmouth until 1813, when he accepted the invitation of Yale,—supplemented in 1814 by appropriation of $20,000.00 by the Connecticut legislature for building and equipment,—to go to New Haven and found the Yale Medical Institution. Here he served with distinction as professor and dean until his death in 1829.

It was certainly a noble endeavor of the Middlebury trustees to make of that college one of the very few colleges in the country having departments of both law and medicine.

The Middlebury records carry no further mention of a professor of chemistry until August 22, 1816, when such a professorship was established. On August 21, 1817 it is noted that Gamaliel S. Olds had "failed to enter upon the discharge of his office of professor of chemistry" and his office was vacated and filled by election of Dr. Reuben D. Muzzey (sic) to that title.

Dr. Mussey, a pupil of Dr. Nathan Smith, was another great man in early American medical education. On August 20, 1818 Dr. Mussey had not yet accepted, but in the summer of 1819 he gave at Middlebury a course of lectures on chemistry. Not until 1827 was a professor of chemistry in service at Middlebury. This closes the first episode of the endeavors of Middlebury College to participate in the professional training of physicians and bridges the gap to the second series of events in which Middlebury College was connected with medical teaching in Vermont.

THE SECOND EPISODE

In February, 1818, three residents of Castleton established, under the name of the Castleton Medical Academy, the first medical school in Vermont to actually give instruction. No one of the three men was a graduate in course in either arts or medicine. The leader of the three was Dr. Selah Gridley (1770-1826). A native of Connecticut, he began to practice medicine in Castleton in 1795. In 1817 Middlebury College gave him the honorary degree of Master of Arts. He was in high repute as a practitioner and also as a private teacher of medical students. He was one of the organizers of the Vermont State Medical Society, established in 1814, and president of that society from October, 1815 to October, 1817.

The second man was Dr. Theodore Woodward (1788-1840). He was a nephew of Dr. Nathan Smith of Dartmouth, under whom he had studied as a private student, and had been a student in the medical school at Hanover in 1810, but did not continue to graduation. He began medical practice in Castleton in 1809. In 1821 Middlebury College conferred upon him the honorary degree of doctor of medicine.

The third man was John LaConte Cazier, principal of the Rutland County Grammar School at Castleton. He was a student in the College of Physicians and Surgeons of the Western District of New York at Fairfield, New York, in its first and second years (1812 and 1813), but did not continue to graduation. On him, in 1816, the University of Vermont conferred the honorary degree of bachelor of arts.

Although the Castleton Medical Academy had no charter, it gave a course of medical instruction to twenty-four students from late February to June, 1818. On October 29, 1818 the Vermont legislature passed an act of incorporation of the Castleton Medical Academy, but this act did not confer the power of granting degrees. This institution gave another course of instruction from February to June, 1819.

The records of the corporation of Middlebury College under date of August 19, 1819 carry the following minute: "The petition of the Corporation of Castleton Medical Academy for a connexion of that institution with this College was read. Whereupon resolved that the prayer of said petition be referred to a committee of three to make report at the present meeting."

The committee reported recommending that "the prayer thereof" ought to be referred to the faculty of the college "who shall make report at some future meeting of the corporation as to the expediency of a connexion with said Academy and the terms and conditions on which the same ought to be effected". This committee report was adopted.

The legislature on October 27, 1819 amended the "defective" charter of Castleton Medical Academy, passed a year before, giving it the "power to give and confer those honors and degrees as are usually given in such medical institutions upon the students of said academy as they shall think worthy thereof."

At the meeting of the corporation of Middlebury College of August 16, 1820 was presented a report from the faculty dated July 28, 1820 and signed "in behalf of the committee" by President Bates. This report recites that inquiry had been made "concerning the character and prospects and that infant institution" and conferences had been held with some of the professors and members of its corporation. The result "is in the opinion of your Committee favorable. We believe that the institution will be useful and respectable, calculated to promote the cause of Medical Science in the State and worthy the patronage of Science generally and of the 'healing art' in particular. Your Committee therefore recommends a compliance with said proposal so far as to confer the degree of Doctor of Medicine on the pupils of the Academy upon the following conditions which are believed to be conformable to the usages of other colleges in similar cases."

These conditions recited the usual requirements of three years' study with "some regularly educated physician," the attendance upon two full courses of lectures and the passing of the usual examinations.

To such students the faculty of the Academy was to issue a certificate signed by the professors and countersigned by the secretary of the Academy corporation. This certificate was to be presented to the president of Middlebury College and then "the candidate shall read in the College Chapel or Philosophy Room a dissertation on some subject connected with the 'healing art' and defend the principles which it contains". This "public examination" was to be held on the day preceding the usual commencement at Middlebury.

The candidate was to bring "to the Presiding Officer of the College a copy of the diploma which has been prepared for the purpose, filled up and ready for signature and shall pay to him four dollars the legal fee for a degree of this college."

An interesting appendix to the report is that seniors in Middlebury College could attend the full course of medical lectures at the Academy for the reduced total fee of $6.50.

This report was adopted by the corporation with the proviso that the personal attendance of the candidate for medical degrees might be dispensed with where it was impracticable. Here at the outset is mentioned the cause of much friction in this affiliation. The medical course at this time ended in late June, and the candidate had to wait two months for his medical

degree, while he desired to begin practice at once and often in some other state. Later, when the time of the medical course was changed from spring (February to June) to autumn (September to December), the candidate must wait for his medical degree eight or nine months until the next August brought the Middlebury commencement.

It is evident that the diplomas were made up at Castleton and, as was then the custom, signed by all the medical professors and then brought to the president of Middlebury for signature. Because of this it was stated in the announcements of the medical school that the candidate "receives a degree conferred by the joint authority of two corporations."

On the next page of the records following the adoption of this report is found the record of the first medical degrees conferred by Middlebury College in August, 1820, upon two candidates, namely, Dan Pond and Franklin Shaw.

On August 15, 1821 medical degrees were conferred on five men "notwithstanding certificates are not countersigned by the secretary of sd Medical Academy." In this statement is a hint at the internal difficulty in the faculty and corporation at Castleton. The chief contenders in this quarrel were Dr. Woodward and Dr. J. A. Gallup, who became president of the Medical Academy in 1820 only to be himself supplanted four years later. We shall meet Dr. Gallup again later on.

On August 21, 1822 the medical degree was conferred on twelve candidates and in this year by legislative act the name of the medical school was changed to Vermont Academy of Medicine.

In the winter of 1820, when attendance had reached one hundred and twenty-six medical students, the troubles with the medical school began. The medical professors wanted their graduates to receive their diplomas at the end of the medical course. Since some of these lived in other states, it was inconvenient to return some months later to attend a commencement. Moreover, the people of Castleton wanted the graduation to be held in Castleton. Local pride in the medical school was beginning to develop and commencement was the culminating feature of a school year. Moreover it was a gala occasion for a small town and Castleton was being deprived of this annual celebration.

On March 7, 1823 at a special meeting of the Middlebury Corporation, was received a communication from a committee of the Vermont Academy of Medicine. It was referred to a committee for reconsideration and report at a future meeting.

At another special meeting on April 1, 1823 the committee recommended compliance with the request of the said corporation and the appointment of a committee "to attend the public examination of medical students at Castleton and examine the certificates of such as are candidates for the degree of Doctor of Medicine and that the President and Secretary be authorized to execute in due form diplomas for all who are approved according to the former regulations of the board." This placed the decision on worthiness for degrees in the hands of two officers instead of in the entire corporation. Consideration was deferred to the next meeting.

At the meeting of the Middlebury corporation held August 21, 1823 the report of April 1 was referred to a committee which, later in the day, reported that "after due deliberation and examination of the law incorporating Middlebury College they are of the opinion that no degrees can be conferred at Castleton or other place than Middlebury by the President and Fellows or either of them." This committee recommended as a solution that "the Board will hold a session at Middlebury at such time as will best comport with the wishes of the Trustees of said Medical Institution for the purpose of receiving the usual documents as heretofore evincing the qualifications of the medical students of the said Academy and for granting degrees and the diplomas may be delivered at Castleton and that such proceeding shall be reported at the next Commencement of said College" (i.e. at the next Middlebury commencement.) This plan was adopted.

On August 20, 1823 the medical degree was conferred on seventeen men who had finished their medical course and passed the examination in November 1822, and on Nov. 29, 1823 a second medical class was graduated for the year 1823. It consisted of twenty-nine men.

This procedure of conferring medical degrees in the autumn was followed in 1824, 1825, and 1826. A few medical degrees were conferred each year in August. These were to men who failed at their examinations in the previous autumn or for some reason had not completed their work.

The Middlebury corporation records carry no minute as to the termination of the relation with the Vermont Academy of Medicine, but the last reference to it is on December 18, 1826, when degrees were conferred on twenty-five men. From other sources it is known that early in 1827 the Vermont Academy of Medicine withdrew from its affiliation with Middlebury College, which it could do without embarrassment since it had its own chartered power to confer degrees.

One may ask why this action was not taken sooner. The answer is evident. Up to 1825 there had been established in New England eight medical schools, namely,—Harvard (1782), Dartmouth (1798), Brown (1811), Yale (1813), Castleton (Vermont) Academy of Medicine

(1818), Bowdoin (1820), University of Vermont (1822), and Berkshire (1823). In all the rest of the United States there was only an equal number. Each of these New England schools was affiliated with a college of arts and all except Castleton and Berkshire were in the same town as the affiliated arts college.

The Berkshire Medical Institution, located at Pittsfield, Massachusetts, when organized in 1823, was unable to get an independent charter because of opposition in the Massachusetts Medical Society, probably arising mainly from Harvard adherents. It, however, was adopted by Williams College. Not until 1837 did Berkshire succeed in getting an independent charter and sever its connection with Williams.

Therefore, for the Vermont Academy of Medicine to withdraw from its relations with Middlebury College would make it the only school in New England without affiliation with a college of arts. This condition would be looked upon by its rivals as a mark of inferiority. The continuance of the relation for seven years after securing its own charter seems to have been a policy of awaiting sufficient strength to become independent. From 1823 to 1826 it had an attendance ranging from one hundred and three to one hundred and twenty-six students, which was greater than in any other New England medical school and thus it felt strong enough to withdraw from the oversight of Middlebury College. Hence in 1827 this second episode in medical education at Middlebury College terminated. During the seven years of its continuance (1819-1826) Middlebury conferred one hundred and thirty-seven degrees of doctor of medicine in course and fifteen honorary degrees of doctor of medicine.

The experience of Middlebury in the episode was similar to that of many a college of arts, in the next half century, which adopted a medical school in some town more or less distant from its campus. The college of arts had very little control of the faculty of such a medical college geographically remote. It had no influence on the medical students. The college of arts certainly received little benefit except the privilege of adding a list of medical students in its catalogue, thus increasing its "total enrollment" and perhaps being able to consider itself in the class of universities since it had a professional school.

The episode here related is the only one in the history of American medical education where a medical school with its own charter continued long in such an affiliation. Usually the relation resulted from the inability to secure a charter by a group of men who wished to start a medical school. Also the name of the college of arts gave a certain character to a medical school that did not pertain to an unaffiliated school.

In all these affiliations, of which there were fifty or more, the medical faculty was autonomous. It owned its property, handled its own finances, and often appointed its own teachers without any knowledge or action of the trustees of the affiliated arts college. Middlebury College had no part in the appointment of the medical teachers. That was done by the Castleton corporation. In some cases even the president of the arts college never saw the men graduated in medicine, but signed the diplomas sent to him and returned them, deputizing the dean of the medical faculty to confer the degrees.

This appears to have been a very loose connection of Middlebury College with the medical school, but we shall find a yet looser affiliation in the next episode.

THE THIRD EPISODE

Although from 1827 to 1832 Middlebury College had no connection with medical teaching, she continued to grant a few honorary degrees of doctor of medicine each year. This was the only bridge with a medical tinge between the second and third episodes.

Dr. Joseph Adams Gallup was born in 1769. In 1798 he graduated in medicine at Dartmouth. He, with one other man, composed the first medical class graduated at Hanover.

When the Castleton Medical Academy was organized in 1818, Dr. Gallup had no connection with it, but in 1820 he became a member of its corporation, succeeded Dr. Gridley as professor of Medicine, and was made president. He soon came into discord with others in the organization and in 1824 was forced to resign both from the corporation and from the faculty. He then went to Burlington and lectured at the medical department of the University of Vermont for a few months without formal appointment. Here again there was discord, and he next located in Woodstock.

In 1826 he announced that there was need of a medical school on the eastern side of the mountains. New England already had half of the medical schools of the United States and Woodstock was but twenty miles distant from the medical school at Hanover. The "need" does not seem to have been great with two other schools in the State of Vermont and six more schools in New England.

However, in August, 1826, he announced the founding of the Clinical School of Medicine at Woodstock. The faculty consisted of himself, one other physician, and two young men, neither of whom were physicians, one being a graduate a few months earlier at Amherst. The school did not begin operation in 1826 due to "unexpected delays."

In 1827 he announced a new faculty consisting of himself and two other young men, one an 1819 Harvard graduate in medicine who had just returned from study in Europe. A course of instruction was given in the spring of 1827.

Dr. Gallup tried to get a charter at the 1827 session of the legislature, but failed. His plan was opposed both by the Castleton group and also by the medical men at Burlington. This opposition arose because these schools did not care for the competition of a third medical school in the state, but was also probably influenced by the earlier personal quarrels with Dr. Gallup.

Having no charter to give degrees, Dr. Gallup was compelled to suspend the school and no course was given in 1828. In 1829 a course was given and late in that year he entered into affiliation with Waterville (now Colby) College at Waterville, Maine, two hundred and sixty miles distant.

The charter of that college prohibited its granting any degrees other than A.B. and A.M. before 1830, and it was in that year that were granted the first degrees to students of the Clinical School of Medicine of Woodstock, Vermont.

The contact of Waterville College with its medical school was not very close. It appointed a committee of two to attend the examinations of the candidates for the medical degree. Neither of these was either a trustee, faculty member, or alumnus of Waterville College, but on the recommendation of these two men the trustees of Waterville College voted the degrees. Thus were graduated the classes of 1830, 1831, and 1832.

In Vermont there was opposition to this arrangement. In a rare pamphlet entitled, "Hints on the Present State of Medical Education and the Influence of Medical Schools in New England," Dr. Benjamin Lincoln, Professor of Anatomy and Physiology in the Medical Department of the University of Vermont, says: "Have we not seen in the State of Vermont an Individual create a school, assume the title of Professor in a Professorship of his own creating, then elect a College as his Patron and import Diplomas from a Foreign State! and all this after having been refused a Charter by the Legislature on the ground that the Interests of the Publick did not demand another School." This pamphlet appearing in 1833 was a reprint of newspaper articles of 1831 and 1832. The opposition became so violent that Dr. Gallup had to do something.

The records of the corporation of Middlebury College show a special meeting on January 1, 1833 and state that the Faculty of the Clinical School of Medicine by a resolution passed October 6, 1832 requested "the corporation annually to confer the degree of Doctor of Medicine on the qualified candidates among the students of said School."

The corporation voted "To comply with the request for the present year upon the following conditions and under the following regulations which are believed to be in conformity with the rules and regulations of other authorized institutions in conferring the same degree." These regulations were the usual ones, namely possession of a "fair" moral character, three years' study of medicine, attendance on two courses of lectures and passing an examination.

This examination was to be before the Medical Faculty, the censors appointed by the Vermont Medical Society, and a Board of Visitors appointed for the purpose by the corporation of Middlebury College. The candidate must secure a certificate of approbation signed by a majority of those members of this tripartite examining board who were present at the examination and at least two of the signers must be members of the Board of Visitors appointed by Middlebury College.

A Board of Visitors of nine members, with the President ex-officio, was appointed and "the President and Secretary of the Corporation are authorized to sign, seal, and deliver a diploma in the usual form to each candidate possessing the qualifications above described and examined and approved in the manner before stated". . . .

The Board of Visitors were all prominent physicians of towns not far distant from Woodstock.

This method was exactly the same that, on August 21, 1823, the corporation had declared to be illegal when proposed in the case of graduates at Castleton. The affiliation was much looser than that with Castleton, and the tenuous contact of the corporation with the Clinical School of Medicine is indicated by the fact that in the records of the corporation occurs the name of no one of the eighty students of the Clinical School of Medicine upon whom Middlebury conferred the degree of Doctor of Medicine from 1833 to 1837 inclusive.

On April 1, 1834 the corporation extended the arrangement for another year and a Board of Visitors was appointed with two additions. The receipt of a communication from the medical faculty asking a permanent connection is noted. This was referred to a committee for inquiry.

At the meeting of the corporation of August 21, 1834 it was voted to make this connection permanent "with the simple proviso that either party may be at liberty to discontinue the connection after a year's notice of such intention."

In 1835, 1836, and 1837 a Board of Visitors to the Clinical School of Medicine was appointed. The last reference to this school is in the appointment of this Board of Visitors on August 18, 1837. No mention of termination of the affiliation is made and it may be assumed that the

Middlebury corporation did not initiate a dissolution of the relation. But there are other sources of information and other occurrences that complete the story.

While in 1829 Dr. Gallup had on the Faculty of the Clinical School of Medicine only two young men, in succeeding years there were added other mature men. Among these was Dr. David Palmer, who became professor of Chemistry and Materia Medica in 1832. Dr. Palmer was largely self-educated and not a medical graduate, but he was popular in eastern Vermont both as a practitioner and a private teacher of medical students. In the medical faculty soon developed two factions, one led by Dr. Gallup and the other by Dr. Palmer. In 1834 Dr. Gallup retired from the school and Dr. Palmer became its leader.

The permanent connection with Middlebury College in 1833 not only added to the prestige of the Clinical School of Medicine, but it made futile further opposition by the medical schools at Castleton and Burlington in the matter of the charter for the school at Woodstock, since that school, through the Middlebury affiliation, had a permanent method of conferring the degree of doctor of medicine.

The medical faculty now took up the matter of securing its own charter and this was granted by legislative act of October 26, 1835. Under this charter the corporation was organized in April 1836 under the name of the Vermont Medical College. However, the degrees of 1836 and 1837 were conferred by the president of Middlebury College.

The records of the Trustees of the Vermont Medical School under date of June 6, 1837 show "Resolved that the connexion of this institution with Middlebury College be and hereby is dissolved and that, in future degrees shall be conferred by and under the authority of this institution."

Thus we see that the third episode of Middlebury College in medical education was terminated by the medical school a little more than a year after its corporate organization in April 1836, the year's notice being that specified in the original agreement.

The Vermont Medical School immediately affiliated with the Berkshire Medical Institution at Pittsfield, Massachusetts. The session at Woodstock was from March to June and that at Pittsfield from July to October in each year. Therefore, the fact that the majority of the men on the faculty of each of these schools was also on the faculty of the other school caused no conflict of teaching duties and made it possible for a student to get the "two courses of lectures" required for the degree between late February and late October of the same calendar year.

The school at Woodstock continued until 1856. The Medical Department of the University of Vermont, organized in 1822, had been forced to close in 1836 by the combined competition of the schools at Castleton and Woodstock. In 1854 the school at Burlington reopened. This fact and faculty dissensions in the Vermont Medical College forced the closing of the school at Woodstock. The school at Castleton continued until 1861 and then closed and finally in 1867 the Berkshire School at Pittsfield, Massachusetts, closed.

These incursions of Middlebury College into the field of loose medical educational affiliation were a part of the growth of medical teaching in the nineteenth century. It cannot be doubted that what influence Middlebury exerted on these two medical schools was beneficial to them, but the looseness of the affiliation and the geographical separation made it impossible for Middlebury to control these schools. Both had an honorable and useful career and prepared a large number of men who gave creditable medical service to their communities, a considerable number who became prominent in the medical profession, and a few who attained eminence in their generation.

THE MORTALITY AMONG MEMBERS OF CONGRESS

Reports seem to indicate that the life of a Congressman is a serious handicap to his health. Dr. George W. Calver, attending Capitol physician, has issued a very definite warning, citing as examples that sixteen Representatives and four Senators have died during the present session of Congress. Several others seem to have collapsed from overwork and nervous exhaustion. Dr. Calver cites that more than half the membership of both Senate and House has been under medical treatment since the long session began in December. As many as twenty have been confined to their beds at one time. His recommendation is that the time devoted to work each week should be shortened and that another rest day should be added to Sunday. This situation, according to Dr. Calver, is unparalleled in the experience of the House and constitutes a problem of greater complexity than even that of wartime.

MORTALITY RATES

Telegraphic returns from 85 cities with a total population of thirty-seven million for the week ending March 19, indicate a mortality rate of 13.9 as against a rate of 13.5 for the corresponding week of last year. The highest rate (24.0) appears for Trenton, N. J., and the lowest (8.0) for Flint, Mich. The highest infant mortality rate (20.1) appears for New Bedford, Mass., and the lowest for Dayton, Ohio, Evansville, Ind., Knoxville, Tenn., Long Beach, Calif., New Haven, Conn., Schenectady, N. Y., and Somerville, Mass., which reported no infant mortality.

The annual rate for 85 cities is 12.5 for the eleven weeks of 1932, as against a rate of 14.1 for the corresponding period of the previous year.

THE NEW HAMPSHIRE MEDICAL SOCIETY

REPORT OF A CASE OF LYMPHO-SARCOMA*

BY FREDERICK P. SCRIBNER, M.D.,† MANCHESTER

I AM reporting this case of lympho-sarcoma, for two reasons—first, because of my mistake in diagnosis,—secondly, because of the comparative rarity of the condition in New Hampshire, and also because of its involvement of the heart.

An American boy, aged 18, occupation farmhand, who had never had any previous severe illness, was brought to the Elliot Hospital on October 11, 1930. As he was unable to give a history, because of his delirious condition, the following history was obtained from one of the doctors (Dr. Tappan) who had seen him previous to his admission to the hospital.

September 20, 1930—Patient complained of pain in the left lower lobe anteriorly. His temperature at that time was 101½, pulse was full and bounding, the rate was not given. There was dullness in the left lower lobe and there was bronchial breathing over this area. Patient stated that he had been to another physician (the day before) who had made a diagnosis of pleurisy. Dr. Tappan sent the patient home and ordered him to remain in bed. The condition remained in this localized area, with the temperature ranging from 101½ to 102. The patient was raising a yellowish sputum containing dark streaks and was kept in bed with difficulty. On September 29, the temperature was higher and the patient was delirious and there were noted at this time small glands in the cervical region, axilla, epitrochlear region and the groin. Pain had spread throughout both lungs. He was advised to enter the hospital.

Physical examination as found when admitted to the hospital.

He was a well-developed and nourished boy partly delirious, lying in bed, breathing with moderate difficulty and coughing a great deal. The pupils were equal, regular and reacted normally to light and distance. The tongue protruded in the median line without tremor and was heavily coated with a thick dry brown coat. The teeth were fair, throat and tonsils negative. Glands: several large cervical, one small submaxillary, one large gland about the middle of the left arm, a few small ones in the right epitrochlea and inguinal region. The nose was filled with mucus. The heart was not enlarged, there were no murmurs, sounds were of good quality and except for rapid action, was apparently normal. B.P.: systolic 120, diastolic 80. Lungs: no definite areas of dullness could be made out. There was an asthmatic type of breathing present, there was no bronchial breathing but the lungs were filled with dry and moist râles which were more marked most of the time on the right side. The râles were both inspiratory and expiratory.

Abdomen: Soft symmetrical, no masses, tenderness or rigidity. Liver and spleen were not felt. Rectal examination was not made. The genitalia were normal, the spine was negative. There was no edema of the extremities. All reflexes were normal. The Widal and undulant fever reactions were negative. The Wassermann was negative. The urine showed a faint trace of albumin with a specific gravity of 10.25. There were many hyaline, a few granular casts and a few pus cells.

Blood: red count 5,110,000, white count 12,950, Hgb. 80%. The red blood cells were of normal size, shape and reaction. The differential count, neut., 72% small lymph and large lymph, 27, and eosin 1.

PROGRESS NOTES

October 1, temp. 103.4, pulse 140, respiration 30. After having one dose of ephedrine there was less asthmatic breathing.

October 2. 4 A.M., temp. 99.2, pulse 100, respiration 30. 8 P.M., temp. 104, pulse 138, respiration 48.

October 3. 4 A.M., temp. 100.4, pulse 140, respiration 48. 8 P.M., temp. 103, pulse 140, respiration 48.

October 4. 4 A.M., temp. 102.2, pulse 130, respiration 40. 4 P.M., 102.2, pulse 134, respiration 30.

October 5. 4 A.M., temp. 104 ax., pulse 134, respiration 60. 8 A.M., temp. 96.8, pulse 116, respiration 40. 8 P.M., temp. 100, pulse 160, respiration 56.

October 6. 8 A.M., temp. 98.6, pulse 130, respiration 36. During the day was fairly comfortable. At 8:20 P.M., he suddenly began to gasp for breath and became cyanotic and died in a few minutes. The autopsy was done by Dr. Holmes. During the time he was in the hospital every night he was delirious, while during the day his mind for the most part was clear. It was difficult to keep him in bed as he felt that he should be sitting up. During this time the glands did not increase in size. My diagnosis on admission was bronchial pneumonia. I did not feel that the glands were of any great consequence until after the autopsy was performed.

POSTMORTEM

Number: 17716. October 6, 1930. Postmortem.

Name: Wheeler, Lloyd, age and address not given.

Autopsy done by Dr. J. F. Holmes, Manchester, N. H. Elliot Hospital.

Well developed and fairly well nourished individual. Evidence of general glandular enlargements, particularly marked in the neck and the left arm. Abdomen showed no particular increase of peritoneal fluid. The lymph channels were generally choked with large glands. This was particularly marked along the mesentery attachments and about the pancreas. The liver was much enlarged, the left third larger than normal, rather hard, slightly pale, smooth. The gall bladder was adherent to the lesser omentum and appeared to be somewhat thickened. No stone felt. The spleen was large and smooth. The intestines were also smooth and apparently normal. The cecum was enlarged. The appendix was small and retrocecal. The pancreas was much enlarged and invaded by lymphoid-looking tumors varying in size. Both kidneys were filled with the same lymphoid-looking tumors. The chest cavity was filled with a bronze, thickened mass, the same lymphoid-looking tumors which involved the lungs very extensively so that the mediastinal space was filled and the masses had extended and were adherent to the chest walls, laterally and anteriorly. The pericardium was also involved in the extension, being firmly adherent to the lungs and to the anterior wall of chest. The heart muscle itself was invaded

*Read at the annual meeting of the New Hampshire Medical Society at Manchester, May 19, 1932.

†Scribner — Visiting Physician, Elliot Hospital, Manchester, N. H. For record and address of author see "This Week's Issue," page 753.

by the same type of tumor which extended and involved the endocardium so that the heart cavity was studded with lymphoid-looking tumors of varying sizes some of which were loosely attached, furnishing the clue to the immediate cause of death, namely, embolism. Specimens removed, enlarged lymph nodes from the right supratrochlear region, both kidneys, section of pancreas, section of both lungs, the heart in total. Diagnosis: Lymphoid sarcoma.

REPORT OF DR. KINGSFORD

Gross Examination: Specimen consists of a mass of tissue irregular in outline, suggests a portion of a lung, one surface is thick, firm, has several circumscribed areas, this surface suggests the pleura. The lung tissue appears to be very small in amount, is tough and dry. Another irregular piece of tissue also suggesting a portion of a lung with a very markedly thickened pleura. Also the pancreas, large, firm, weighing 100 grams, lobulated, has a smooth capsule and attached to it is a circumscribed mass about the size of a robin's egg and resembles a lymph node. Kidneys weighing 200 grams each, capsule smooth, each covered with what appears to be cortical cysts, markings obscure, cortex increased, pelvis rather small and filled with fat.

Microscopical Examination: Sections show a large round cell sarcoma of lung, secondary in the kidney. The mass attached to the pancreas is a sarcomatous nodule. Of course, I cannot say where this was primary but may be lung. You could easily get a thrombus consisting of tumor cells. The pancreas does not appear to be involved. The kidney is particularly interesting. Practically all the blood vessels are loaded with tumor cells and one would suppose that a blood smear would show the lesion. Pathological Diagnosis: Large round cell sarcoma.

H. N. KINGSFORD (Signed).

The following is a copy of the report by Dr. Tracy B. Mallory from the Pathological Department of the Massachusetts General Hospital.

"There are two sections of myocardium, each showing a rather large area of infiltration by a tumor composed of medium sized and large, discrete, poorly differentiated cells having the appearance of lymphoblasts. Mytotic cells are frequent and there are occasional multinucleated forms. There is only slight fibrosis. No eosinophils are seen.

"The other section is a lymph node. There is complete obliteration of the normal architecture and replacement of the normal lymphoid tissues by cells similar to those described above.

"Pathological Diagnosis: Lymphoblastoma."

MISCELLANY

NEW HAMPSHIRE MEDICAL SOCIETY

PRELIMINARY ANNOUNCEMENT OF THE ONE HUNDRED AND FORTY-FIRST ANNUAL MEETING

The annual meeting of the New Hampshire Medical Society will be held at Manchester, Carpenter Hotel, Tuesday and Wednesday, May 17-18. The first meeting of the House of Delegates, Monday evening, 7:30 o'clock, will be held at the same place.

The Manchester Medical Association is the Committee on Arrangements and is planning for the comfort and enjoyment of the members, their ladies and the Woman's Auxiliary. The banquet Wednesday evening will be under the direction of Dr. Carleton R. Metcalf, Concord. As Anniversary Chairman he guarantees some excellent after-dinner speakers.

Tuesday evening Dr. Arthur J. Cramp, Chicago, Director of the Bureau of Investigation, American Medical Association, will give an illustrated lecture on Patent Medicines in the assembly room where all of the general sessions will be held. This lecture is open to the public, is of more than ordinary interest and has been highly commended throughout the country by the large number of physicians and lay men who have heard it.

The President, Dr. George C. Wilkins, Manchester, will preside at all of the meetings of the general sessions.

The Woman's Auxiliary, under the presidency of Mrs. Granville E. Hoffses, Manchester, will have its annual meeting on the same days with headquarters at Hotel Carpenter.

The Committee on Scientific Program has provided an attractive list of well-known physicians, some from distant cities, to present subjects of lively interest. Dr. George F. Dwinell, Manchester, Chairman of the Committee on Scientific and Commercial Exhibits, has already signed up a larger number of exhibitors and, as usual, this feature will add much to the interest of the meeting.

The complete program will be mailed to the members thirty days in advance of the meeting and will be printed in the *New England Journal of Medicine*, May 5. In the meantime make your arrangements to be present at Manchester, May 17-18, and be assured you will be well repaid in learning some of the most recent accomplishments in Medicine, meeting many old acquaintances, and enjoying a delightful evening at the banquet.

D. E. SULLIVAN, M.D., *Secretary-Treasurer.*

NEW MEMBER

Dr. Philip B. Weiner, Whitefield, graduate of Tufts College Medical School 1920. Licensed 1929.

NEWS ITEMS

Dr. W. J. Paul Dye, Harvard Medical School 1925, Massachusetts General Hospital 1930, has opened an office for the practice of medicine at Wolfeboro, N. H., in association with Dr. F. E. Clow.

Dr. Clarence M. Wiggin of Conway has been very ill during the past weeks.

Dr. Warren Butterfield of Bartlett is leaving for an internship at the Boston City Hospital.

The Huggins Hospital at Wolfeboro has installed a Roth-Barach Oxygen Tent, the gift of Mrs. Jennie Sinclair of New York City. An addition to the hospital was opened a short time ago increasing the

capacity to 40 beds. At the last meeting of the Board of Trustees Drs. W. J. Paul Dye, Wolfeboro, John S. Wheeler, Wolfeboro, and Francis J. C. Dube, Center Ossipee, were made members of the Visiting Staff.

Dr. Deering G. Smith, Nashua, the Secretary of the Hillsborough County Medical Society, has been elected Chairman of the local Board of Health to fill the vacancy due to the sudden death of Dr. Carroll R. Murch.

RECENT DEATH

MURCH—Dr. Carroll Raymond Murch, chairman of the Nashua Board of Health, died at Nashua, March 2, after a few days' illness, of pneumonia.

ADVICE TO EXPECTANT MOTHERS

How the Medical Society of the State of New York is taking the lead in that State to teach the public the need for adequate maternity care is explained in an article appearing in a recent issue of the *New York State Journal of Medicine.*

A plan was approved by the Medical Society to send every physician in the State copies of a leaflet for distribution to patients, with the title: "A Message to Expectant Mothers and Fathers from the New York State Medical Society." This circular outlined the fundamentals of maternity hygiene advising medical care from the time the woman believes she is pregnant until the doctor says she is able to resume her regular activities and responsibilities and to care for her baby. It includes: "Labor begins with pain in the back, with or without discharge. As soon as labor begins, send for your doctor. Take things easy until he gets there. Ask him *Now* for his card or telephone number so you will be able to call him immediately. *Attach His Phone Number to This Circular and Place it in a Prominent Place.*"

These leaflets were not sent to physicians directly by the Society, but through the coöperation of the Maternity Center Association of New York City, an organization which conducted a Mother's Day Campaign last year for adequate maternity care, and is planning another for 1932. A letter accompanied the circulars offering to send physicians additional quantities if desired, and the response from the medical profession was immediate and highly favorable. Newspaper accounts appeared in the press of the state, under such captions as: "Physicians Take Lead in Effort to Reduce Maternal Mortality"; "Members of Medical Society Distribute Standards of Better Maternity Care to Patients."

Copies of the "Message to Expectant Mothers and Fathers" will be sent on request to physicians outside New York State, according to information received from Dr. George W. Kosmak, Chairman Medical Board Maternity Center Association, 1 East 57th Street, New York City.

The Maternity Center Association was a logical instrument to promote this activity. It had already come into prominence for its own maternity work, a study of the records of 4,726 pregnant women cared for by the Association was made by Dr. Louis I. Dublin and published in the *American Journal of Obstetrics and Gynecology* (December, 1930). This report showed a lower maternal mortality rate for mothers cared for by the Association as compared with those mothers in the same district not under its care. The obvious difference in the care received by the two groups was that the Maternity Center Association group had early and constant medical supervision.

In 1930 the Maternity Center Association launched a year's Educational Campaign, which culminated on Mother's Day, May 10, 1931. Efforts were made to reach as many persons in this country as possible through publicity methods which stressed the facts that the puerperal death rate in the United States was unnecessarily high, that it could be reduced by adequate and skilled obstetric care. The object of the Campaign was to educate the public in the essentials of such care. Daily and weekly newspapers, magazines and trade journals all over the country carried the material which the Maternity Center Association sent out. The Metropolitan Life Insurance Company, the Borden Products Company, and Parke, Davis and Company devoted newspaper and magazine display advertising to the importance of adequate maternity care. Governors and mayors issued proclamations and health commissioners wrote articles and broadcast over the radio; ministers preached sermons; news reels in every theatre in the United States showed Mrs. Theodore Roosevelt, Sr., speaking at the Association's luncheon in New York on May sixth of last year, in behalf of the work of the organization.

The Medical Board of the Association is made up of the following members: Dr. George W. Kosmak, Chairman, Drs. S. Josephine Baker, George L. Brodhead, Haven Emerson, Caroline S. Finley, James A. Harrar, Leon S. Loizeaux, Philip Van Ingen, George Gray Ward, Wilbur Ward, Benjamin P. Watson, Herbert Wilcox and Hervey C. Williamson.

Dr. Kosmak submitted a draft of the proposed circular statement to the committee on public health and medical education of the Medical Society of the State of New York on October 8, 1931. The Committee approved and authorized its distribution to the practicing physicians in New York State, to be given by them to their pregnant patients. This action of the committee was likewise approved by the Executive Committee of the Council.—*Bulletin of the Maternity Center Association,* 1 East 57th Street, New York City.

VERMONT STATE MEDICAL SOCIETY

MECHANICAL OR SURGICAL PROCEDURES IN THE TREATMENT OF PULMONARY TUBERCULOSIS*

BY E. J. ROGERS, M.D.,† PITTSFORD, VT.

FOR years we have stressed bed treatment in cases of tuberculosis. No one has ever disputed the value of bed rest. In this short paper I wish to call to your attention other methods of bringing about rest of the lung. I refer to pneumothorax, pneumolysis, phrenicectomy, and thoracoplasty.

PNEUMOTHORAX treatment, also called air treatment, or gas treatment, or artificial collapse, means the injecting of air into the chest cavity between the parietal pleura and the visceral pleura, so that the lung is compressed by an air cushion. This method of treatment gained great headway about 1910, 1911, and 1912. After several years many of the sanatorium men lost their enthusiasm and relatively few cases were treated from 1915 up to about 1925. For the past six years, however, a tremendous number of cases have been treated by pneumothorax.

Pneumothorax would be the ideal treatment if it were not for the adhesions found in more than fifty per cent of cases. The most frequent complication arising after the beginning of treatment is the formation of fluid. It is relatively easy to draw the fluid off, but it has a tendency to recur. Many men now draw off the fluid and put in small quantities of oil, using olive oil, cotton seed oil, or the ordinary mineral oil.

PNEUMOLYSIS means cutting adhesions so that the lung will collapse completely. The operation was first done by Unverricht in Germany and Professor Jacobaeus in Stockholm. An instrument, known as the thoracoscope, which is really nothing but a modified cystoscope, is used. One puncture is made in front to introduce the thoracoscope and another puncture in the back to introduce the knife or cautery.

PHRENICECTOMY — Phrenicectomy means taking out the entire phrenic nerve, or at least two and one-half inches of it. When the phrenic nerve is cut or pulled out the diaphragm is paralyzed. The diaphragm becomes longer, rises and does not contract with each inspiration. Not only is the chest cavity made small, but the pistonlike pull on the lung eighteen to thirty-two times a minute is eliminated.

THORACOPLASTY is an operation on the ribs. Beginning with the first rib a section is taken out of each rib. Starting with about one inch from the first rib a little more is taken from each rib so that when you get down to the eleventh rib the section is about six inches long. This allows the entire chest wall to cave in. Thoracoplasty is a very serious operation but it is done with considerable success by numerous surgeons throughout the states. Dr. Edward Archibald of Montreal has operated on a large number of cases. Dr. Edward D. Churchill has been operating on cases at the Massachusetts General Hospital for several years. At the Herman Kiefer Hospital in Detroit Dr. O'Brien has operated on hundreds of cases, and good work is also being done in every big city, particularly in the Middle West and on the Pacific Coast.

In a country sanatorium it is not possible to do any of the above operations, except pneumothorax. All of the other methods are highly specialized surgical operations and should be done in a hospital.

The writer believes that New England, with the exception of Connecticut, is failing to keep up with the procession and appeals to the family physician to study the need of more positive measures in pulmonary tuberculosis. As a sanatorium director, he feels that the backing of the general practitioner is imperative.

*Read at the Annual Meeting of the Vermont State Medical Society at Rutland, October 8, 1931.

†Rogers—Superintendent and Medical Director, Vermont Sanatorium, Pittsford, Vermont. For record and address of author see "This Week's Issue," page 753.

MISCELLANY

AN EXTRACT FROM A SURVEY OF THE MEDICAL FACILITIES OF THE STATE OF VERMONT BY ALLON PEEBLES, PH.D.

The 360,000 persons in Vermont spent more than $7,500,000 in 1929 for the prevention and care of illness.

In spite of this expenditure, about 60 per cent of the people did not employ the services of a physician and 70 per cent did not consult a dentist during the year.

At present the scarcity of physicians in rural districts does not cause undue hardships, but existing tendencies, unless corrected, will within a decade result in serious local shortages of physicians.

Vermont has a population of about 360,000. Its pleasant summers and long severe winters are characteristic of the northeastern section of the United States. The rugged hills, the many rivers, the numerous lakes—of which Lake Champlain is the largest—afford great attraction to the summer

visitor, but the physiography of the state makes travel in certain districts difficult during the snowy season and the spring rains. Agriculture — particularly dairy farming — is the principal occupation in the state, although considerable manufacturing has been developed.

Essentially rural in character, Vermont has only eight incorporated cities, the largest of which, Burlington, has a population of about 25,000. The local unit of government, as with other New England States, is the town, and the county is of relatively minor importance. The 240 towns in Vermont are largely independent and autonomous.

The people are predominantly of native-white stock and are highly literate. They have a strong sense of individualism and a love of independence, typified by their town meeting. They are not wealthy, but they are industrious and thrifty, and they place a high value on their financial integrity.

The study of the medical facilities of the state of Vermont was undertaken to supply information on the provision and costs of medical care in an area typical of other large sections of northeastern United States.

About 3,300 individuals in Vermont — more than 2 per cent of the gainfully employed — are engaged in the care and prevention of illness. They are divided among the various professional and semi-professional groups as follows:

Physicians	435
Physicians' office girls	106
Dentists	153
Dentists' office girls	70
Graduate nurses	450
Practical nurses	450
Osteopaths	31
Pharmacists	240
Optometrists	66
Chiropractors	40
Chiropodists	21
Christian Science practitioners	18
Personnel of health departments	250
Hospital personnel	1,240

Hospital service is provided by 32 institutions (containing about 3,000 beds), of which 21 are general hospitals for local community use. Fourteen of these general hospitals have less than 50 beds. In addition to the general hospitals for community use, 10 other hospitals serve state-wide needs.

There are 435 physicians in the state of Vermont, most of them in small cities or villages, and nearly all in independent practice. In areas in the state of which Franklin County is representative, it is clear that physicians are numerically sufficient to meet the ordinary needs of the people and, by current standards, many of these physicians are adequately trained. Yet many of them practice without the technical advantages afforded by a hospital; most of them utilize modern laboratory procedures but little and here, as is largely true of all parts of the United States, their work is almot entirely concerned with the cure and not with the prevention of disease. The financial returns of at least one-half the physicians can hardly be satisfactory to them. They give their services without charge to considerable numbers of patients.

THE PROFESSIONAL INCOMES OF PRACTITIONERS, VERMONT, 1929

Practitioners	Average Gross Income	Average Net Income
Physicians	$7,025	$4,310
Dentists	6,745	4,187
Nurses:		
Graduate	.....	1,101
Practical	.....	563
Osteopaths	6,069	4,454
Chiropractors	3,068	2,164
Chiropodists	2,300	1,040

These figures have, of course, only limited value, but may be used as appropriate indices to measure the financial returns which accrue to the practitioners in Vermont. It is interesting to observe that physicians, dentists, and osteopaths have gross incomes between about $6,000 and $7,000, and net incomes between approximately $4,200 and $4,500. Of these three professional groups, the net incomes are largest for the osteopaths and least for the dentists, with the physicians between the two. The chiropodists and chiropractors have substantially smaller gross and net incomes. The incomes of the nurses are in a measure not directly comparable with those of the others because their professional earnings are returns in addition to maintenance and are therefore treated as net incomes with the understanding that they represent only part of the financial return. The figures are approximately $1,100 for the graduate and about $560 for the practical nurses.

In Vermont, as elsewhere in the United States, the consumption of drugs and medicines (the expenditure is over $5 per capita) represents a problem of such enormous magnitude and complexity as to defy analysis in this report. The findings from the survey indicate that Vermont has more pharmacists than the extent of prescription dispensing would require but that, in view of the wide distribution of the population, the present number of pharmacists is probably not excessive. The problems of the drug store are made especially acute by the competition of other types of stores which sell medical preparations, particularly patent medicines.

With 8 hospital beds per 1,000 persons for the state at large, Vermont cannot be said to have an insufficient number of beds. According to a local authority, the number of beds available to nervous and mental patients is insufficient for the needs of the state. However, the present bed capacity might

be sufficient for a few more years if the institutions could return the patients more rapidly to their communities and, by out-patient activities for the ambulatory sick, relieve the pressure on the institutions. Vermont perhaps needs more beds for the care of the tuberculous, and, even apart from an increase in capacity, certainly needs to have the existing beds for the tuberculous utilized far more extensively for incipient or moderately advanced cases than is now the practice. The almost complete lack of preventoria illustrates another outstanding need in the field. In Vermont hospitals, the occupancy rates are generally low, yet institutional facilities are lacking for patients with chronic disease and for convalescents. Only 8 of the 21 general institutions serving the local communities are approved unconditionally by the American College of Surgeons; some hospitals are inadequately equipped to render certain kinds of reasonably modern medical care. The absence of out-patient or clinic activities in the hospitals indicates either that ambulatory patients of the lower economic groups are not receiving needed medical care or that they are being cared for by private practitioners without charge.

CONCLUSION

The evidence is sufficiently clear throughout the report that the people of Vermont are not receiving the medical care which they need and that this is primarily due to the fact that many families cannot make the necessary expenditures. The common belief that the poor receive necessary medical care is not supported by the survey, in spite of the extensive provision of free services by physicians and in spite of expenditures for indigent persons by towns. The group which suffers most is composed of people with small resources who desperately attempt to maintain financial independence. Because they are unable to pay doctors or dentists, they postpone seeking medical advice and attention.

The people of Vermont will probably solve their medical problems without undue delay. They possess the necessary intelligence and, collectively, they have sufficient funds. With leadership to obtain the necessary medical facilities, to coördinate them effectively, and to introduce financial devices encouraging greater collective expenditures for medical care, a high level of health and of medical service can be assured every man, woman, and child in the state.—*Report of the Committee on the Costs of Medical Care.*

VERMONT DEPARTMENT OF PUBLIC HEALTH

FEBRUARY, 1932

We are again able to report a month without a single case of diphtheria in the state. During the year so far there has been no positive culture in the laboratory and only one case reported. This seems to be a record in this disease. The tabulated report also shows a reduction in the number of diseases reported, especially in measles and chicken pox. Smallpox cases continue to be found, ten counties now having had mild outbreaks of this disease. Practically all the cases are so mild as to be recognized with difficulty and several of the cases reported are the result of a check-up after a patient is found. As a result of the smallpox cases, many thousands of vaccinations have been done.

The incidence of communicable diseases for the month of February is as follows: chicken pox 168, measles 506, mumps 267, poliomyelitis 1, scarlet fever 61, smallpox 78, undulant fever 1, typhoid fever 7, tuberculosis 11, whooping cough 169.

The Laboratory of Hygiene made a total of 1,169 examinations during the month, classified in the following manner:

Examinations	
For diphtheria bacilli	62
For Widal Reaction of Typhoid Fever	40
For malarial parasites	1
For tubercle bacilli	152
For evidence of syphilis	363
For gonococci in pus	136
Of water, chemical and bacteriological	46
Of water, bacteriological	177
Of milk, market	102
Of milk, submitted for chemical only	13
Of milk, submitted for microscopical only	20
Of foods	9
Of drugs	1
For the courts, autopsies	0
For the courts, miscellaneous	1
Miscellaneous examinations	46
Autopsies to complete death returns	0

In the Division of Communicable Diseases 18 new cases of gonorrhea and 19 new cases of syphilis were reported. Two hundred and twelve Wassermann outfits and 189 gonorrheal slides were distributed.

The Division of Tuberculosis has completed stories and outlines for posture and exercise to be used in the schools of the state. Ten thousand copies of the Modern Health Crusader were distributed.

The nurses in the Division of Poliomyelitis Aftercare made 43 home visits during February, visited four doctors, removed two plaster casts and fitted 13 pieces of apparatus. Five patients were admitted to the Fenway Hospital in Boston, one patient was admitted to the Massachusetts General Hospital and one patient was admitted to the Shriner's Hospital. Three patients were discharged from the Fenway Hospital and one patient discharged from the Children's Hospital. Sixteen orthopedic corrections were made to shoes and four pieces of apparatus altered or repaired.

The State Advisory Nurse spent some time this

month conducting classes in infant care in high schools. An average of twenty-five girls took the course as part of the regular Home Economics program. Talks were given to Parent-Teachers' Associations on child welfare work of this Division.

ADDISON COUNTY MEDICAL SOCIETY

A meeting of the Addison County Medical Society was held at the Porter Hospital Wednesday, February 24, 1932. Eleven members and several guests were present. A two-reel moving picture, "The Mechanism and Management of Breech Presentation," was shown. The smallpox epidemic was discussed and methods of vaccination compared.

RECENT DEATH

PRENTISS—Dr. Roger G. Prentiss, Johnson, Vt., was a prominent physician of Lamoille County, held in high repute by his profession.

Dr. Prentiss was born in Moretown, Vt., September 22, 1868, and died while attending a case in Eden, Vt., February 19, 1932. He was a graduate of the University of Vermont Medical College and went to Johnson 38 years ago, where he had constantly practiced his profession.

Dr. Prentiss was a Mason.

He is survived by Mrs. Prentiss, a daughter, Miss Katherine Prentiss, and a son, Dr. Roger G. Prentiss.

INVESTIGATIONS OF PUBLIC HEALTH PROBLEMS

A report recently made to Congress by Surgeon General H. S. Cumming indicates the expansion and reorganization of the studies conducted by the Public Health Service on cancer. These studies include the biologic effects of radiation on cancer, studies of resistance and immunity to malignant growths, studies of susceptibility to malignant growths, and studies of the factors concerned in the growth of normal cells and cancer cells.

Studies in nutrition have consisted largely of the determination of the relative pellagra-preventive potency of single staple food and foodstuffs. A study of canned spinach showed it to contain the antipellagric vitamin, but not to a degree sufficient for complete protection against the disease, while canned turnip greens gave complete protection. Canned green stringless beans were shown to be a relatively poor source of the antipellagric vitamin. The determination of the pellagra-preventive value of canned foodstuffs is of immense practical use, since they may be obtained at the time of the year when the diet is most restricted and pellagra is most prevalent.

Two important discoveries in connection with the investigations of typhus fever have been made during the year. The suggestion that some vector other than the body louse may be responsible for the transmission of endemic typhus of the United States has been made by a number of investigators, and during the year Service officers discovered that fleas served as vectors of the disease. Further epidemiological and laboratory studies are being made on this subject.

A disease of the Rocky Mountain spotted fever type has been identified as occurring in States in the eastern and southeastern sections of the United States. During the course of field investigations of endemic typhus it became apparent that many of the cases observed differed materially in clinical aspects from endemic typhus as described by earlier investigators. It was noted that many of the patients suffered from a very severe disease which did not correspond to the clinical picture of endemic typhus and which resembled the spotted fever of the Rocky Mountains more closely than it did any other disease. Moreover, quite a high proportion of these cases gave a history of tick bite within a short time preceding onset. Laboratory studies confirmed the epidemiological findings. This eastern type of spotted fever has so far been found to exist in rural communities in Delaware, Pennsylvania, Maryland, the District of Columbia, Virginia, and North Carolina.

The possible hazard from methyl alcohol used as a substitute for denatured alcohol to prevent freezing in automobile radiators has been brought to the attention of the Public Health Service and an agreement has been reached with the industry for the adoption of safeguards. In this agreement, reliance is placed on a distinctive coloring, a chemical deterrent, and a warning label.

The final report in the studies of physical development and posture has shown that the most marked characteristic of the data obtained was the wide variation in postural relations from person to person. No fixed types of posture could be found. Gradual variation of such magnitude as to defy classification into particular types was the rule.

Studies of the efficiency of artificial water purification processes have made it possible to prescribe definite limits in accepted bacteriological terms for sources of raw water from which purified water supplies in the Great Lakes and Mississippi River basins are derived. This is perhaps the most practical immediate result of the studies, though of scarcely secondary importance is the knowledge which they have afforded of the fundamental characteristics and limitations of water purification processes in general.

An appropriation of $300,000 was authorized under the second deficiency act for the fiscal year 1931 to begin work on new buildings for the National Institute of Health, such buildings not to exceed a total of $750,000. The necessity for these buildings is urgent to provide the required facilities for work now being conducted by the National Institute of Health. — *United States Public Health Service.*

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 18141*

FIVE WEEKS' ORTHOPNEA, ASCITES AND COUGH

MEDICAL DEPARTMENT

PRESENTATION OF CASE

DR. ASHTON GRAYBIEL**: This patient was a colored porter sixty-three years old who first came to the Outpatient Department three years before death complaining of continuous pain in the left shin of two months' duration. He gave a history of having had a chancre burned off thirty-seven years previously. He had always used much alcohol. Examination showed inequality of the pupils but normal reactions to light and accommodation. There was roughening of the left tibia. The liver was not palpable. The left testicle was harder than normal. Wassermann and Hinton tests were strongly positive. X-ray of the left tibia showed an area of bone destruction and proliferation consistent with lues and early osteomyelitis. A lumbar puncture showed a negative Wassermann. Antiluetic therapy was begun at that time.

He continued coming to the Outpatient Department for treatment. About a year later he noticed swelling of the abdomen. He had no other symptoms and continued with his work. About one year after this he was seen in the Eye Clinic, where a diagnosis of glaucoma of the left eye was made. X-ray at that time showed the heart and aorta normal in size and shape. About eight months before he entered the wards he complained of hemorrhoids and the passage of dark urine. Examination in the Outpatient Department revealed a large smooth non-tender liver extending three fingerbreadths below the right costal margin. Later he went to the Rectal Clinic for treatment of the hemorrhoids. Five months before entry he lost his appetite and noted that the abdominal swelling had increased. He gradually failed in strength. He had severe attacks of nocturnal dyspnea waking him from sleep with cough, choking, a constricting feeling in the chest or throat and fear of impending death. He was forced to stop work because of dyspnea, cough and edema. Since the onset his voice had grown much hoarser than usual. He had lost 14 pounds in the past year or two.

Three months before death he came into the wards. At that time he was quite emaciated, but below the thorax this emaciation was masked by ascites and considerable edema of the lower extremities extending up to and including the sacrum and the abdominal wall. There was slight prominence of the cervical and abdominal veins. The heart was not particularly enlarged. There were systolic murmurs at both the base and the apex. The blood pressure was 136/96. There was considerable peripheral sclerosis. The right chest gave the classical signs of fluid. There were many râles at both bases. The abdomen was distended. There was shifting dullness and a definite fluid wave. The liver was palpable. There was entire loss of vision in the left eye and sluggish reaction of the right pupil to light.

On entry he had no temperature. His respiration was 25, his pulse about 95.

Laboratory examinations showed that his urine was never abnormal except at one time when we thought we saw a little bile. The red blood count was 4,200,000, the hemoglobin 70 per cent, the smear not remarkable. The white blood count was never abnormal. A Hinton test was moderately positive, a Wassermann strongly positive. A liver function test showed 10 per cent dye retention. The van den Bergh was 2.0.

At the time when he came in we thought he probably had cirrhosis of the liver, although we could not very well explain the large amount of fluid in the right chest. An abdominal tap was done and 3.5 liters of straw colored fluid was obtained. The specific gravity was 1.016. The fluid contained a few white blood cells but no red cells. The differential count showed 38 per cent polynuclears, 44 per cent lymphocytes, 18 per cent unclassified cells. Cultures were negative. The total protein on this fluid was 1.2 per cent. A liver function test at that time showed 0 to 0.5 per cent retention. A van den Bergh was 2.5 to 3.0 milligrams per cubic centimeter, direct reaction.

X-rays on admission showed that there was a large amount of fluid in the right chest obscuring the right border of the heart. "There was no marked change in the left side of the heart. The lung markings showed diffuse thickening and beading, probably exaggerated by the high position of the diaphragm and incomplete aeration, simulating a miliary type of silicosis, metastatic malignancy or tuberculosis. The only other evidence of tuberculosis was a small calcified area in the left apex and the left lung root. The absence of fluid and the diffuse increased radiance at the left base were thought to be somewhat against cardiac decom-

*This report gives the essentials of two discussions, one in Dr. Cabot's Third Year class, one at a conference of the hospital staff.

**Recently senior interne on the East Medical service.

pensation as the cause of the abnormal findings. The left shoulder appeared abnormal."

Shortly after admission 1700 cubic centimeters of clear yellow fluid was removed from the right chest. This fluid had a specific gravity of 1.020, cell count 1405, polynuclears 45 per cent, lymphocytes 31 per cent, large mononuclears 24. The total protein was 5.2 per cent. We thought at the time that the difference in character of the abdominal and chest fluids suggested that the origin of the two fluids might not be the same. We further examined some of the cells of the chest fluid quite carefully and noted that they were unusual. A specimen was centrifuged and the pellicle sent to the Pathologic Laboratory. The report sent back was that these peculiar cells we saw were probably malignant.

X-ray examination after the thoracentesis showed no appreciable change in the appearance of the chest since the last observation. The heart was slightly displaced towards the left side. It was not enlarged, but the measurements were unsatisfactory. The aorta was tortuous and showed prominence in the region of the knob. The left hip showed gross abnormality consistent with an extreme degree of malum coxae senilis. The left tibia showed slight but definite thickening of the anterior cortex.

A third examination of the chest a week after the second showed definite collapse of the right lower lobe which might have been due to chronic pleural effusion or to obstruction of the right descending bronchus.

A cardiac consultant thought the absence of enlargement of the heart and tachycardia plus the presence of normal venous pressure in the cervical veins was definitely against cardiac failure's playing a significant part in the picture. He found the aortic second sound a little rough, but heard no definite diastolic murmur.

The patient soon developed a low grade temperature. He had no appetite and because of the low serum protein, 5.2 per cent, he had forced feedings by tube, including "klim" in quite large amounts. The next serum protein was 5.7; then it went up to 6. Although the chart never showed any diuresis, he continued to have gradual loss of fluids. He lost all his peripheral edema and considerable ascites. Ammonium nitrate and salyrgan were given in an effort to produce diuresis. They were never effective. Because of a question of luetic heart disease he was given digitalis, which had no noticeable effect on the action or rate of the heart.

The patient continued to run a rather downhill course. It became increasingly difficult to feed him. Repeated tappings were necessary to remove fluid from the chest and abdomen. Gradually he lost all ability to coöperate in treatment and sank into coma. A month after entry he died.

Clinical Discussion

in third year class

notes on the history

Dr. Richard C. Cabot: There are three main suggestions in that history. (1) Hoarseness coming on in a Negro always makes one think of aneurysm. (2) A constricting feeling in the chest always makes one think of angina, perhaps more in a person who has had paroxysmal dyspnea, as he has. (3) There is general evidence of a failing heart, whatever is the pathology. Pretty much everything then, I should say, leads us to think of the heart and aorta.

If I were given those x-ray facts as to the bones and had no expert to correct me, I should say that the evidence is not conclusive but probably points to syphilis. The testicle of course points in the same direction.

We should like to know about the other findings in the spinal fluid.

Have we that film taken a year before admission?

Dr. Aubrey O. Hampton: The measurements of the heart are within normal limits. We had a very good oblique view of the aorta. There is no evidence of dilatation. I think we should say that the aorta was normal. In the right lower lobe he had this small shadow which was not described at the time and may not mean anything. In the light of what we have here, however, it is worth noting.

Dr. Cabot: It is against aneurysm then.

notes on the physical examination

The lung examination shows fluid in both chests.

Dr. Hampton: Here is a film taken about one year and one month after the first examination. In this one we described a change in the left side. The change in the lung markings is quite definite. There are many very small shotty areas distributed along the lung markings. We thought those might be exaggerated by the high position of the diaphragm. I wonder if the absence of fluid at the left base and the normal radiance of the lower lobe are not against heart disease. There is fairly definite evidence of fluid rising high in the axillary line on the right, except that the heart is not displaced to the left, but towards the right. So we had to assume in the later note that there was collapse of the right lower lobe too, at least collapse of part of the right lung. We could not tell of course about the supracardiac shadow at that time. The heart was certainly not prominent to the left. That small nodule which we

saw earlier at the right base becomes more significant now that we find possibly many small nodules and collapse of the right lower lobe.

DR. CABOT: We shall look for possible evidences of malignant disease, then, as we go along through the history.

DR. HAMPTON: Yes. The calcified area in the left apex was present at the first examination. It has not changed at all. We have very little to suggest miliary tuberculosis.

We also had films of the pelvis and vertebrae. They were possibly looking for metastatic malignancy.

DR. CABOT: They are not worth showing?

DR. HAMPTON: They show no evidence of metastatic malignancy. The tibia is now nearly normal. It had certainly changed very much since the first examination.

DR. CABOT: He had been treated a great deal I suppose.

DR. HAMPTON: There is now merely slight thickening of the cortex.

I think our interpretation of hypertrophic arthritis from the examination of the hip was not enough, that he had in addition to that a congenital lesion, perhaps a congenital hip. There is obvious interference with the development of the pelvis.

DR. CABOT: It could not be old tuberculosis of the hip?

DR. HAMPTON: Yes, it could; but usually in tuberculosis there is complete ankylosis, and here there is apparently some joint space remaining.

A STUDENT: Could it be a Charcot joint?

DR. HAMPTON: That would not produce the whole picture.

DR. CABOT: There was possible obstruction of the right descending bronchus—by a tumor.

The chest fluid shows a notably high gravity. We almost never get that from any merely dropsical transudate.

DIFFERENTIAL DIAGNOSIS

This seems to me a very complex case. We will start with the things that seem more prominent than the others,—dilated veins over the abdomen and lower chest, retention of dye in the liver, rapid reaccumulation of ascites. He is a chronic alcoholic. All that would fit very well with hepatic cirrhosis; I do not see how we can rule that out. On the other hand it seems like malignant disease of the lung if the x-rays of the lung are to be taken at face value. I cannot explain that accumulation of fluid at the right base with some at the left on the basis of a cardiac lesion, and the cardiac consultant's report makes us very dubious whether there is a cardiac lesion. The patient has had some evidence of syphilis. Is this hepatic disease a syphilitic lesion? Very possibly, but if so it is presumably still of the cirrhotic type. What have we beyond that? A suggestion of malignant disease in the lung, collapse of the lower right side, a possibility of nodules on the left. We have not much to go on there. He never has had bloody chest fluid. He has had no pain, and although there are some large veins over the chest, they might perfectly well be accounted for by obstruction in the liver. It seems to me the evidence of malignant disease in the chest is not very good, though I cannot rule it out. If it is there I suppose it is presumably metastatic. Where could it come from? It might come from the liver. Malignancy is one of the possibilities in the liver disease. It might come from the prostate I suppose, though we have nothing in the bones. Did you get a look at his hip?

DR. TRACY B. MALLORY: Yes.

DR. CABOT: Let us speculate a little more about the hip then. X-ray seems to show something more than merely hypertrophic arthritis, apparently something in the way of a congenital lesion, more like that apparently than like tuberculosis. The pelvis being so small on that side I suppose points to the lesion's being of very long standing. All that apparently is a third element in the case besides those I have discussed. I cannot connect it with the others.

Shall we say he has any heart lesion? Not such as would contribute to his death. His dyspnea seems more likely to come from something in the lung, what I do not know.

I have to leave the case at rather loose ends. I do not believe I have the ability to put it together in any way. Cirrhosis of the liver first, with malignant disease second; if malignant disease there, possibly in the lung; possibly in the lung independent of whatever else is present. There may have been sclerosis of the coronaries with myocardial patches, but I do not believe it was the cause of death. I can go no further.

A STUDENT: Are the cells in the abdominal fluid in keeping with cirrhosis of the liver?

DR. CABOT: They are not in any way characteristic. I do not know any abdominal fluid in which the cells are characteristic. It seems to me it is a good deal of a waste of time to examine it.

A STUDENT: If that were a syphilitic cirrhosis, wouldn't the white cell count be increased?

DR. CABOT: No, I think not.

DR. FREMONT-SMITH: Could you argue that a Negro might not have much interest in cough, but might have had a cough for some time without noticing it? He complains here of cough, pain in the chest and hoarseness, and there is no explanation in the aorta for the hoarseness. That is rather a characteristic triad in early carcinoma of the lung. Later metastasis to the liver may have occurred. Could we not put those two together in that way?

DR. CABOT: Could you connect that with his hip too?

DR. FREMONT-SMITH: No, I do not see how we can.

CLINICAL DISCUSSION

AT STAFF CONFERENCE

DR. ARLIE V. BOCK: I should like to put two questions.

(1) In the case of cirrhosis of the liver of the portal type can enlargement of the liver due to congestive failure occur?

(2) If cirrhosis is present in a ballotable liver can death occur due to portal cirrhosis while the liver is still large?

DR. MALLORY: It certainly is possible to get death from cirrhosis with the liver still big. We can get it in an acute alcoholic and we can get death with a big liver in infectious cirrhosis, but there we do not ordinarily have ascites.

DR. BOCK: I refer to the so-called alcoholic cirrhosis, not acute processes.

DR. MALLORY: I think that is possible, but it is unusual.

DR. BOCK: What about the first question? Can a small cirrhotic liver become engorged and become palpable?

DR. MALLORY: I cannot remember having seen it.

DR. BOCK: Isn't the evidence pretty strong that this man did not have cirrhosis?

DR. MALLORY: Of course one thing that I see from time to time, with constant wonder as to why it does not cause more clinical errors, is a liver of normal weight or even below the normal weight that comes down three or four centimeters below the costal margin because of a peculiarly low diaphragm. Also it is possible for a normal sized liver to have considerably increased vertical diameter which is compensated for by unusual narrowness from side to side. They are not very common, but once in every one or two hundred autopsies we see a normal sized liver that comes far down. I think clinically one takes it for granted that a palpable liver is a large one.

DR. BOCK: Still the fact remains that we see very few patients die of cirrhosis of the liver who have a palpable liver at the time of death.

DR. MALLORY: This patient had fluid in the right chest which might have pushed the diaphragm down.

DR. CHESTER M. JONES: It seems to me that fluid in the right chest is not uncommon in cirrhosis anyway, although the amount here is larger than usual. I have always felt that it was associated with perihepatitis or perisplenitis as the case may be. I think it is not at all uncommon to get it in the right and not at all rare to get it in either side or both. A low serum protein is not too rare in cirrhosis, and may be an associated cause for the accumulation of fluid.

A PHYSICIAN: Was the spleen palpable?

DR. MALLORY: No.

DR. JAMES HOWARD MEANS: How much importance do you attach to the finding of cancer cells in the chest fluid?

DR. MALLORY: In view of the extreme conservatism in my department in making that diagnosis, it is fairly significant. If we commit ourselves so far as to say they are suggestive, I think there is a good chance that they are. It is very rarely that we go as far as that on cells from a chest fluid.

DR. MEANS: Aside from that, is there anything about the case that could not be explained entirely on the basis of syphilis?

DR. MALLORY: Some of the points in the chest x-rays could not I think be included.

DR. GEORGE W. HOLMES: From the description of the x-ray findings I should think there was thickening of the lymphatic tissue along the lung markings and at the root of the lungs. What that was due to we could not tell. I think it may occur in acute syphilis but is not generally seen in syphilis. It is much more likely to be seen in acute respiratory infections and metastatic malignancy, sometimes in tuberculosis. Malignancy and dust would be the most common causes of such a picture as is described. I am sorry we have not the proper film.

DR. HAMPTON: On the film that is missing there was a small nodule in the right lung field one year and six weeks before the process developed at the right base. That nodule in the right lung was about one centimeter in diameter.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Lues.
Cirrhosis of the liver.
Ascites.
Malignant disease (?) of the right chest (lung or pleura).
Right hydrothorax.
Malum coxae senilis.
Luetic periostitis.
Cachexia.

DR. RICHARD C. CABOT'S DIAGNOSES

Syphilis, perhaps in the aorta.
Cirrhosis of the liver, probably alcoholic, or
Malignant disease of the liver, possibly with metastasis to the lung.
Ascites.
Old deformity of the hip, perhaps congenital.

ANATOMIC DIAGNOSES

Adenocarcinoma of the lung with metastases to the kidney and the hypernephroma, the right femur, and the peribronchial, perivascular, subpleural and retroperitoneal lymph nodes.

Cirrhosis of the liver.
Hypernephroma of the right kidney.
Ascites.
Hydrothorax.

Pathologic Discussion

Dr. Mallory: This was an extremely complicated case clinically and pathologically. At the time of autopsy we still were incorrect in our diagnoses on the gross findings.

We found a perfectly normal heart and aorta. There was nothing to suggest syphilis except some testicular atrophy, without however any interstitial orchitis, so I do not feel that even that was a luetic process.

The lungs were very peculiar in appearance. They were of a diffuse shotty consistency throughout almost all the lobes. We thought at first that the condition was in part pneumonia and in part probably malignancy. As we went farther with the autopsy we found a hypernephroma of the kidney, and we said, "The nodules in the lungs and the enlarged bronchial and retroperitoneal glands are metastases from the hypernephroma." When we examined the microscopic sections, however, we found that we were distinctly wrong about that.

The sections from the kidney show the typical large "clear" cells one finds in hypernephroma. There is no question as to the diagnosis there. It must be a primary renal tumor. It seems to be very well differentiated. We found no mitotic figures in it. It does not look like a tumor that would metastasize.

Within this tumor are other areas of marked degeneration, and in the midst of those little clusters of tumor cells which stain intensely blue, showing an entirely different appearance from the hypernephroma. In the bronchial glands we found adenocarcinoma, again the small blue staining cells, not in the least suggestive of hypernephroma. Throughout the lung there is a very diffuse involvement, practically a cancerous pneumonia, also involvement of all the peribronchial, perivascular and subpleural lymphatics with cancer, not in the least suggesting the appearance of hypernephroma. In the other kidney are very numerous small metastases which look exactly like the tumor in the lung.

We therefore reached the conclusion that we were dealing with two independent types of malignant tumor, a hypernephroma in the right kidney which had not yet metastasized and another carcinoma, in all probability primary in the lung, which had metastasized all over the body, including metastases into the hypernephroma. The bone of the right femur proved also to show a metastatic tumor similar again to the appearance in the lung more than to the renal tumor.

Dr. Hampton: There is nothing in the x-ray picture of the femur consistent with metastasis. I think that metastatic lesion was microscopic only. Such metastases would begin to occur in the bones two or three months before we see them anyway.

Dr. Mallory: The patient did have a well marked cirrhosis which undoubtedly played a major rôle in the symptomatology, but I think was probably not the primary cause of death, which was the spreading malignancy in the chest.

Dr. Cabot: He did not have any neoplasm in the liver?

Dr. Mallory: Practically none. There were a few microscopic metastases, but on the whole the liver escaped more than most of the other organs.

Dr. Bock: Was it of normal size?

Dr. Mallory: The liver was small, weighing 1100 grams. It would be about 1400 under normal conditions. The hypernephroma was not more than 2.5 centimeters in diameter, so I think that was not palpable. On the whole I think the pushing down of the diaphragm was the most logical explanation for the liver's being felt.

Dr. Bock: What was the cause of the ascites?

Dr. Mallory: I think it was the cirrhosis. There was a slight but definite difference between the specific gravity of the pleural and that of the abdominal fluid. The abdominal fluid was 1.016, the chest fluid 1.020. That may or may not be significant, but it is suggestive I think.

Dr. Holmes: Can you tell from the specimen whether that is a parenchymal type of tumor in the lung rather than a tumor of the bronchus?

Dr. Mallory: I do not think I can recognize a parenchymal type. They are certainly rare, but perhaps a possibility. Primary adenocarcinomas anywhere in the lung are unusual. We have had perhaps two of them as against a dozen of the squamous cell tumors.

Dr. Bock: Can you tell whether it is primary in the lung?

Dr. Mallory: With no certainty at all, the involvement is so diffuse. I think however that the nodule Dr. Hampton spoke of was the primary lesion.

Dr. Bock: Do you think it is possible to have cancer originating in the alveolar tissue?

Dr. Mallory: I have never seen one, and many authorities doubt their existence.

Dr. Hampton: How far out in the parenchyma of the lung can a bronchiogenic tumor arise?

Dr. Mallory: Theoretically almost to the pleura, since the bronchioles reach within one centimeter of it.

Dr. Hampton: This nodule we saw was well within the limits then. If the nodule was the

primary lesion, that is the earliest one of which we have an x-ray picture. It was so small that we did not even describe it.

DR. MALLORY: The largest single nodule we found was about one centimeter in diameter.

DR. FREMONT-SMITH: Do you get metastases in the other lung characteristically in cancer of the bronchus?

DR. MALLORY: Not usually, but we may.

DR. HAMPTON: Did he have metastatic lesions in the right lung from the kidney as well as from the left lung?

DR. MALLORY: There is no evidence that the kidney tumor had metastasized at all.

DR. MEANS: What is the accepted theory now about the origin of hypernephroma? Is it an adrenal tumor?

DR. MALLORY: The weight of present opinion is very decidedly against it. I think this point it not proved one way or the other. We usually consider now that they are primary adenocarcinomas of the renal tubules. The cells often look exactly like the tubule cells we see in cases of diabetes.

CASE 18142

PAIN AND TENDERNESS IN THE LEFT LOWER QUADRANT

SURGICAL DEPARTMENT

DR. CLIFFORD C. FRANSEEN*: This is the case of a sixty-four year old white married American housewife who entered through the Outpatient Department complaining of pain in the left lower quadrant of nine days' duration.

She had been troubled with constipation all her life, more during the past year. She had taken a mild laxative tablet at least as often as every other day. There had been no abnormal stools. She had felt perfectly well in every other way until nine days before entry. At that time she awoke in the morning with soreness in the left lower quadrant which caused her to hold her side. Since then the pain had increased steadily in intensity. At admission a constant intense soreness was present, with superimposed attacks of sharp shooting knife-like pain recurring at five-minute intervals and lasting for a minute or two. There was some radiation of the pain to the left breast and down the left thigh to the knee. Her appetite had been poor, but there was no nausea or vomiting. During the present illness she had also had three or four severe headaches.

Saline catharsis on the day of onset gave no result. Castor oil resulted in a watery movement. Two enemata gave poor results. She had had no other bowel movements since the onset of the present illness.

*Junior interne on the West Surgical service.

Physical examination on admission showed a somewhat obese, well developed woman lying quietly in bed in no apparent discomfort. Many teeth were missing; most of the remaining teeth were carious. A moderate amount of pyorrhea was present. Examination of the heart was negative except that the sounds were quite distant. The lungs were clear and resonant throughout. In the left groin there was palpable a soft tumor, three by five centimeters, which felt like a lipoma. Abdominal examination showed the scar of a previous appendectomy. Palpation was difficult because of the patient's obesity and tenderness. There was marked tenderness with some spasm in the left lower quadrant, quite well localized over a point three inches medial from the anterior-superior spine of the ileum and one inch above Poupart's ligament. The liver edge was not felt. Vaginal examination showed slight tenderness in the left vault, but was otherwise negative. Rectal examination merely confirmed the vaginal examination.

The white blood count on admission was 8,100. Two days later the white count was 8,550, the red count 4,050,000, the hemoglobin 80 per cent. The urine showed a very slight trace of albumin and 30 white cells per high power field.

Four days after admission cystoscopy was done. The report follows: "Bladder mucosa was slightly injected everywhere, but no areas of deep redness or ulceration were recognized. No stones, tumors, or diverticula were seen. An extrinsic mass the size of a golf ball was pressing into the bladder wall from behind. There was slight trabeculation posteriorly. The right ureteral orifice was seen clearly. The urine was colorless. The identity of the left ureteral orifice was questionable. No urine was seen coming from that side."

Four days after admission operation was performed. The patient made a good postoperative recovery and at present is making a satisfactory convalescence.

CLINICAL DISCUSSION

DR. JOE VINCENT MEIGS: I saw this patient on grand rounds. Dr. Miller, Dr. Churchill and I thought she should be operated upon. She had an extremely tender left lower quadrant. Although she had no temperature and no leukocytosis, we all felt that she probably had diverticulitis and perhaps an abscess in that region.

Under ether anesthesia I found she had a normal sized uterus and an old pelvic inflammation. High in the sigmoid, well up in the left lower quadrant, there was a mass, and the sigmoid was plastered tight against the left side of the abdomen. This mass was localized and very firm. There was obviously no obstruction of the intestine. I could find the lumen per-

fectly well. There seemed to be a crater in the mass. Although she had one small diverticulum on the anterior surface of the sigmoid and a few fine pelvic adhesions about the appendices epiploicae, I felt that the mass was probably carcinoma rather than diverticulitis. The sigmoid was freed up, it and the tumor mass were brought outside the peritoneal cavity and Rankin's modification of Mikulicz's operation was used. The tumor was removed with the cautery and a clamp left in place. The specimen was opened and found to be diverticulitis. There were two diverticula running down from the inside of the bowel into the mass which formed the posterior wall of the bowel and the upper portion of the mesentery.

The diagnosis should have been made because of the exquisite pain, the fact that the barium enema was negative and the fact that she had no bleeding by rectum, also because she did have one diverticulum on the anterior wall.

Dr. George W. Holmes: I should like to say that this x-ray examination was incomplete because no films were taken. One almost invariably misses a diverticulum if there are no films. It is quite possible that if films had been taken the diverticula would have shown.

CLINICAL DIAGNOSIS

Diverticulitis of the sigmoid.

Pathologic Discussion

Dr. Tracy B. Mallory: The specimen showed several diverticula, only one of which was inflamed.

Dr. Beth Vincent: What is the pathologic basis of it?

Dr. Mallory: Diverticula of the large intestine seem to rest on an entirely different basis from diverticula of the small intestine or duodenum. Most diverticula of the small intestine are the result of congenital abnormalities. We find them with fair frequency in young people. In the large intestine the age grouping is quite striking. Dr. Hugenberger has checked up the few we have had here. He found that there was a total of 23 cases in which uninflamed diverticula were picked up as an incidental autopsy finding. Out of those 18 were males, 5 females. We have between 60 and 65 per cent preponderance of males in the autopsies, so the 18 to 5 ratio cannot be taken quite at its face value, but it is significant, and it is well to recognize that diverticula are more common in males than in females. The average age was 68, the oldest patient 81, the youngest 58. We also had 13 cases of definite diverticulitis, that is, a secondary inflammatory lesion. Of these 8 were males and 5 females. The average age was 61, the youngest 38, the oldest 75. Of those cases 11 were over 54. I think there can be no question that these are acquired defects which come on in old age. They are distinctly commoner in males than in females, commoner in the obese than in the non-obese. One finds the pockets at the points where the blood vessels penetrate the muscular layer, particularly where there is a good deal of fat in the adventitia of the blood vessels. I have an impression that the lesion is considerably commoner than it is generally supposed to be. We have had a total of 36 cases in 6000 autopsies, but over half of those were found in the last 500 autopsies, when we were looking more carefully for them. They are easy to miss with routine post-mortem examinations for two reasons. Sometimes the opening of a diverticulum may be very small, so that the rugae of the large intestine cover it. In other cases the pocket is so shallow, with such a broad mouth, that one does not realize one is probing it at all. There are two definite types. I do not think the wide mouthed type leads into difficulty, whereas the narrow one is prone to get fecal matter stuck in it. That type often goes on to an inflammatory process. In this case there was a fecalith in the inflamed diverticulum; but it is not necessary to have that in order for the diverticulum to become inflamed.

Dr. Vincent: In what portion of the intestine are they most apt to be found?

Dr. Mallory: They are most apt to be found along the mesenteric attachment, so that the pockets project down into the mesenteric fat. That is not always the case, however; they may appear at any point on the circumference. The pocket may extend out into an appendix epiploica. We may even get pockets through the longitudinal bands, where the muscle wall is presumably strongest.

We appear to have had rather an unusual number of these cases in the last year and a half or two years, some of them very interesting. There is a certain fairly standard set of complications. Either an acute perforation of one of the diverticula can occur, with all the signs of acute peritonitis, or the process may be more diffuse and the picture one of intestinal obstruction rather than of perforation at all. In this latter case one is apt to confuse the condition with carcinoma. Another rather standard complication which I remember having seen once in our cases here is for one of these diverticula to become adherent to the bladder, with a resulting sigmoidovesical fistula. It is also not uncommon when one of these diverticula perforates and an abscess forms, usually between the sigmoid and the lateral wall, for it to dissect downward behind the rectum, so that it can be very easily mistaken for a perirectal abscess, and the fact that it has its origin away up in the sigmoid is apt to be overlooked. In such cases the tumor around the rectum may be of very long duration. We had one case this last year in which a colostomy was done for

cancer of the rectum four years before the patient died, a pure case of diverticulitis without cancer.

DR. HOLMES: Have you any data on the relative frequency of combined cancer and diverticulitis?

DR. MALLORY: We have two combined cases out of the total of thirty-six cases of diverticula, and in the autopsy group we had thirty-two cases of cancer of the sigmoid without diverticula during the same period, approximately an equal number. Of course autopsy data are very fallacious on that sort of thing. The general opinion seems to be that although the lesions may occur together, the coincidence is so infrequent that there is no reason to suppose that one leads to the other. It is not like polypi of the large intestine, which unquestionably bear a very close relation to cancer.

FURTHER DISCUSSION OF CASE 17252*

DR. MALLORY: I thought we might bring up again one of those cases in which there was a combined lesion, although we have discussed it before. We have the x-rays on that case, Dr. Holmes.

DR. HOLMES: There is nothing particularly interesting in the chest film except some prominence of the heart to the left and a little enlargement of the left ventricle. This patient shows a definite annular filling defect of the sigmoid the x-ray appearance of which is that of carcinoma, although there is not so much evidence of block as one would expect with a carcinoma of that size. I should have thought it would be impossible to fill the bowel beyond such a deformity. From what Dr. Mallory has just said it would seem important to demonstrate a diverticulum in addition to the deformity. This shadow might be one, but we have no good demonstration of anything except the deformity. From the x-ray evidence I should interpret it as probably carcinoma.

DR. MALLORY: This case showed at autopsy quite extensive diverticulitis and a relatively small carcinoma. The malignant tissue was found only around the mouth of the diverticulum, an area not much over two centimeters in diameter. The base of the diverticulum did not show malignancy. It had perforated, causing general peritonitis and death. So that apparently diverticulitis is the primary cause of death in this particular case, although the patient did have a localized cancer.

DR. ARLIE V. BOCK: How often do diverticula occur throughout the length of the colon?

DR. MALLORY: They are much commoner in the sigmoid than anywhere else. Next to that they are commonest in the cecum. The third group includes those found throughout the whole length of the large intestine. When the condition is at all marked it is not unusual for the number of diverticula to run up even into the hundreds. I think the majority of surgeons are rather puzzled to know how to handle these extensive cases.

DR. VINCENT: I think you are right. We look on them as medical cases unless an emergency arises.

DR. MALLORY: A surgeon from the City Hospital told me a few days ago that he had found a localized inflammatory process in and around a few centimeters of the sigmoid without peritonitis. He felt quite uncertain as to what to do. He finally did the opposite of what Dr. Meigs did, backed out and drained it. He wondered afterwards whether or not that was a wise thing to do.

DR. BOCK: I think it is fair to point out that the majority of cases never have any trouble. This is a relatively rare complication.

DR. MALLORY: Yes. I do not know what the figures on that would be. Judging from our cases here, we have two cases with no symptoms for one with, and probably the figures are very much overweighted in favor of the ones that have symptoms.

DR. BOCK: Diverticula are found frequently without symptoms.

DR. HOLMES: We see in the X-ray Department a good many of these cases which have no definite symptoms.

DR. VINCENT: I think that once an acute attack has taken place there is perhaps a predisposition to later attacks.

DR. BOCK: I do not know whether it does any good or not, but I have been in the habit of urging those patients to live on a low residue diet.

DR. MALLORY: Among the many complications it might be well to mention one case which perforated during proctoscopy. That is one of the possible dangers.

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THE NATURE OF PUNISHMENT

RECENTLY there has been some discussion concerning the nature of the functions of the Board of Registration in Medicine. The title of the original medical practice act of 1894, the wording of the act and its place in the General Laws at the present time indicate that the functions are administrative: to license physicians if certain statutory qualifications are fulfilled, and by the power of continuing regulation, to unlicense them if certain qualifications become unfulfilled. Prosecution and penalties are provided for in the Act but conduct of prosecution and imposition of the penalties noted is outside the province of the Board. Police departments prosecute and, on conviction, the court imposes the appropriate fine or imprisonment.

Whatever may be the intent of the Act and whatever may be the interpretation by the Board of its own acts, the physician whose license to practice medicine is revoked may suffer greatly. A right in property is taken from him, according to one view, without due process of law, and the humiliation and mental anguish may be considerable. It is claimed that the power to inflict such suffering, which is actually punishment, is improperly lodged with an administrative board, at most quasi-judicial in its function, and that the law of Massachusetts should be changed, specifically placing such punitive powers in the hands of a strictly judicial body. In fact, it is so placed in a few of the states. The contention that the general custom is wrong deserves careful consideration.

Parson Browne contended that he beat his wife, not as his wife, but as a contentious and disagreeable old woman. Does the statement of the Board that it does not punish, carry similar lack of conviction?

There is needed a penetrating analysis of the nature of punishment to see whether it comprehends what the Board does. There is needed also a searching analysis of what the Board does to see whether it can be found within the confines of punishment. An analysis less than complete, however, may be sufficient for the present purpose.

Is the result of one's action a just punishment? If one breaks one's leg from slipping on an icy pavement or suffers indigestion from overindulgence in rich food, we speak of punishment only in a popular or colloquial sense. Is one punished for depositing money in a bank which later fails? That is not what we ordinarily mean by punishment. Is it not true that we use the word loosely, with perhaps several meanings?

The functions of the Board may be considered as reactions to the actions of physicians seeking to obtain and retain recognition as qualified practitioners of medicine. The candidate makes application to the Board and attempts to show that he is qualified. The Board reacts by recognizing or refusing to recognize that the qualifications to carry certain responsibilities are fulfilled. Does it reward by recognizing? Does it punish by not recognizing? Clearly there is no punishment here. If later the actions of the physician are such that the Board judges that the conditions of qualification to carry certain responsibilities become unfulfilled, it reacts by withdrawing its recognition. Under what definition of punishment does this reaction come?

Punishment apparently has several elements, of conviction or condemnation (not identical) and actions expressive thereof, and of exaction of the penalty. Any action or reaction outside of these is not punishment.

The Board then has the power of punishment in the sense of judging that an act is one proscribed by the statute or is condemned by the general opinion of the profession, but, since in revoking a license it is merely undoing an act which it formerly did, it does not have the power

of exacting a penalty; its power is so limited that in the ordinary sense it is not called punishment at all, no matter how much the physician may suffer. Power to cause suffering and power to punish are not the same.

INCREASING MOTOR FATALITIES

Drivers and pedestrians alike, according to the *New York Times*, would be more circumspect if they read the text and diagrams of the Travelers Insurance Company's report of motor vehicle accidents in 1931. This report emphasizes the tremendous importance of the minor decision which both driver and pedestrian are so frequently called upon to make. Our inefficiency as motor-car drivers, according to George R. Wellington, Rhode Island Commissioner, is responsible for our serious accident problem, and Commissioner Eynon of Pennsylvania gives as his opinion that traffic safety is ninety-five per cent. education and five per cent. enforcement.

Our motor vehicle casualties are compared impressively with the casualties of the World War, in eighteen months of which 50,510 members of the American Expeditionary Force were killed in action or died of wounds, and 182,674 were wounded. In the eighteen months ended December 31, 1931, 53,650 Americans were killed in motor vehicle accidents and 1,576,840 were injured. Worse still, the fatalities of 1931 showed a 3.3 per cent. increase over 1930, with a two per cent. decline in registration of cars. This rise is considered to be due to increased speed. Pedestrian fatalities dropped more than three per cent., but deaths from collisions increased twenty-four per cent.

Further figures are brought out, such as the fact that more than twenty per cent. of pedestrians killed were under the age of fifteen and that the annual economic loss is estimated at $2,500,000,000 as compared to $2,200,000,000 spent on public school education. Sunday, obviously, is the day of greatest casualties and the peak hour is from 6 to 7 P. M.

THE ACTION OF THE STATE LEGISLATIVE COMMITTEE ON THE CHIROPRACTIC BILL

The Committee on State Administration of the Massachusetts Legislature reported its decision on the bill designed to secure recognition of Chiropractic on March 31, 1932.

A majority report by eight members was adverse. The minority of seven members filed two reports in favor of the bill with additions or modifications. The members of the Committee opposed to the bill are Senators Charles A. Stevens of Lowell and John P. Buckley of Boston and Representatives Clarence S. Luitwieler of Newton, Dennis F. McCarthy of Cambridge, Thomas F. Malloy of Medway, George McLeod of Clinton, John K. Burgess of Dedham and William H. Melley of Chelsea.

The seven minority members of the Committee who are in favor of the bill or a modified draft are Senators Cornelius F. Haley of Rowley and Elbert M. Crockett of Milford and Representatives Carl A. Woekel of Methuen, Herbert W. Urquhart of Georgetown, Louis Pfeiffer of Bedford, James P. Meehan of Lawrence and Paul G. Martel of Chicopee. Of this latter group Representatives Meehan and Martel filed a second minority report and Representative Pfeiffer a supplemental report of his own.

Debate by the House and Senate will probably be conducted very soon.

This scant majority opposed to this bill indicates that the arguments of those who favor restricting the practice of medicine to well-educated and trained physicians have not been accepted as sound by a proportion of the members of the Legislature.

With all due respect to the members of our General Court we feel that those who would by their votes bolster up a declining cult and thereby weaken the public health functions of the State are not familiar with the great advances in scientific medicine and the benefits conferred by its application. This also applies to the large number of people throughout the State who signed the petition circulated by the chiropractic organization.

Sometimes a feeling of weariness creeps into the minds of our leaders when the evidence of misunderstanding and prejudice with respect to medicine is exhibited. The inclination for the moment may be to retire from the contest with the hope that an awakened public intelligence will lead to the general endorsement of the resources of medicine.

Fortunately these reactions are transitory and the contest with unsound propaganda is renewed under the driving force of loyalty to the best interests of the people.

A late report, after the above was written, is to the effect that the Chiropractic Bill was defeated in the House by a vote of one hundred and fifty-one to fifty.

Next comes the Referendum!

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

EMERY, EDWARD S. JR. M.D. Harvard University Medical School 1920. Instructor in Medicine, Harvard Medical School. Associate in Medicine, Peter Bent Brigham Hospital. His subject is Peptic Ulcer: Its Treatment by the Roentgen Ray. Page 717. Address: 319 Longwood Avenue, Boston.

DUGGAN, D. JOSEPH. A.B., M.D. Harvard University Medical School 1923. F.A.C.S. Assistant to Visiting Surgeons, Boston City Hospital. Assistant Surgeon, Malden Hospital and Melrose Hospital. His subject is Colles Fracture. Page 721. Address: 395 Commonwealth Avenue, Boston.

GREGG, DONALD. A.B., M.D. Harvard University Medical School 1907. Resident Physician, Philippine General Hospital. Assistant Professor of Tropical Medicine, University of the Philippines 1911. Visiting Physician to Outpatients, Boston Psychopathic Hospital 1914-16. Superintendent, Channing Sanitarium, Wellesley, Mass. 1916-. His subject is Unhappiness and Mental Disease. Page 725. Address: Wellesley, Mass.

FOLIN, OTTO. Ph.D.; Hon. Sc.D.; Hon. M.D. University of Lund, Sweden 1918. Professor of Biological Chemistry, Harvard Medical School. His subject is The Micro Method for the Determination of Blood Sugar. Page 727. Address: Harvard Medical School, Boston.

WAITE, FREDERICK C. B.Litt. A.M., Ph.D. Assistant in Anatomy, Rush Medical College 1900-01. Assistant Professor of Histology and Embryology, Western Reserve University 1901-04. Associate Professor of Histology and Embryology, Western Reserve University 1904-06. Professor of Histology and Embryology, Western Reserve University 1906-. His subject is Three Episodes in Medical Education at Middlebury College (1810-1837). Page 729. Address: Western Reserve University, Cleveland, Ohio.

SCRIBNER, FREDERICK P. A.B., M.D. Dartmouth Medical School 1909. Visiting Physician, Elliot Hospital, Manchester, N. H., and Consulting Physician, Hillsborough General Hospital, Grasmere, N. H. His subject is Report of a Case of Lympho-Sarcoma. Page 736. Address: 814 Elm Street, Manchester, N. H.

ROGERS, EDWARD J. B.S., M.D. Medical College of State of South Carolina 1908 and Columbia University College of Physicians and Surgeons 1912. Superintendent and Medical Director, Vermont Sanatorium, Pittsford, Vermont since 1913. Formerly Resident Physician, Loomis Sanatorium Annex 1909-1911. Member, Vermont State Board of Health 1923-1931. His subject is Mechanical or Surgical Procedures in Treatment of Pulmonary Tuberculosis. Page 739. Address: Pittsford, Vermont.

MISCELLANY

A RADIO MESSAGE PREPARED AND SPONSORED BY THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE DEPARTMENT OF PUBLIC HEALTH

LOBAR PNEUMONIA*

Lobar pneumonia is a matter of grave concern to the public, physicians and health officers, as one of the most widespread and fatal of all acute diseases. In typical cases it is easily recognized, from its well-defined, explosive onset, with initial chill, rapid elevation of temperature, stitch in the side, cough with bloody expectoration and massive lung involvement. The fever continues for about seven days and terminates abruptly in favorable cases with rapid restoration of the involved area to normal.

Our knowledge is deficient in the ways in which the disease is spread and the proper methods of prevention. Considerable progress has been made in the application of specific treatment.

In considering the causes of lobar pneumonia, it is desirable to distinguish between predisposing and immediate factors. Among the predisposing causes, susceptibility is greater as age advances and in alcoholic subjects. There is a marked seasonal variation of the disease, a large majority of the cases occurring between November and June. The explanation is uncertain, but the tendency to live under less satisfactory hygienic conditions in crowded and poorly ventilated rooms during cold and inclement weather may be responsible. The history of a preceding mild, acute infection such as accompanies a "cold" can usually be obtained.

The immediate cause of lobar pneumonia is the pneumococcus. This organism is a normal inhabitant of the mouth, being present in the saliva of more than one-half of all normal persons. More than thirty different types of pneumococci can be identified, but not all are of equal importance. In about a half of the cases of lobar pneumonia Type I or Type II pneumococcus is concerned and these two types are almost wholly confined to patients with pneumonia, and to persons intimately exposed to them.

This restricted distribution of Type I and Type II pneumococci suggests that pneumonia due to these two types arises from direct contact with patients with pneumonia or from contact with healthy carriers who harbor these organisms in consequence of exposure to the disease. As other types commonly

*Broadcast January 28, 1932, Station WBZA—4:50 P. M.

inhabit the mouths of normal persons the indication is less clear regarding the prevention of pneumonia due to such types. We know, however, that passage of pneumococci through susceptible animals increases their virulence and transfer of pneumococci of whatever type from patients with pneumonia to those about them doubtless favors the development of pneumonia. Such considerations make it desirable to regard the disease as contagious and guard against the transfer of the infectious agent from the sick to the well with much greater care than was formerly the custom. Conditions of overcrowding are known to be of importance in increasing the prevalence of the disease and should whenever possible be avoided.

Preventive inoculation against pneumonia by means of a pneumococcus vaccine must still be regarded as in the experimental stage and thus far there is insufficient evidence to justify its general adoption, but it may be used to protect individuals subject to recurring attacks.

As already indicated, the diagnosis of lobar pneumonia is readily made. It is important also to identify the type of pneumococcus infection at the earliest possible moment. For this purpose a specimen of sputum should be obtained. This should come from the deeper parts of the air passages and be collected in a small, clean, sterile, wide-mouthed bottle. This sputum should be sent at once to a laboratory with facilities for the typing of pneumococci. If as much as two to three teaspoonfuls of sputum are obtained, the type of infection can be determined in fifteen to twenty minutes. If smaller amounts only are available, inoculation of a live mouse may permit a diagnosis of type within three to five hours. Identification of type may also be possible by means of a precipitation reaction in the urine and by blood culture.

The outlook for life in lobar pneumonia depends on a number of factors. The mortality in hospital practice is about 25%. Doubtless many mild cases never reach the hospitals and the outlook in general for recovery is probably much better than this. Poor general condition of the patient, fatigue and chronic alcoholism make the prospect less favorable. Age is of much importance. Youth is favorable. Treatment with specific serum lowers the mortality of Type I pneumococcus pneumonia about one-half and the mortality of Type II about one-third.

In discussing the treatment it is desirable first to speak of general measures and later of specific therapy. If proper medical oversight and nursing cannot be obtained at home, it is better for the patient to be moved to a hospital, but the decision should be made early when the journey can be undertaken without undue fatigue.

Every effort should be made to conserve the patient's strength and resistance by rest, proper feeding and fresh air. An abundance of water favors the elimination of toxic material. In the course of the disease there is at times a plugging of the bronchi with consequent absorption of air and the trapping of infection in that part of the lung supplied by the occluded passage. This undesirable complication may to some extent be avoided by turning the patient frequently from the back to one or the other side. Special diets, drugs of various kinds, including alcohol, and hydrotherapy have not been shown to influence the course of the disease.

I have referred to the abrupt termination of pneumonia in favorable cases. This turn of events in the disease is spoken of as "crisis" and some apprehension is naturally felt by anxious relatives when this term is used. But when crisis occurs in pneumonia it is usually a favorable event during which the temperature falls to normal without any accompanying emergency and within twelve to twenty-four hours there is a rapid transition from a condition of great gravity to one of safety. The crisis is usually an indication of a decisive victory by the patient against the disease.

The favorable termination of lobar pneumonia is largely to be ascribed to population immunity against the pneumococcus and superadded resistance acquired during the short course of the illness against the infecting organism.

The acquisition of this superadded resistance during the disease can be demonstrated by what are called mouse protection tests and protective substance in the patient's serum has an important bearing on the outcome. With it a large proportion of patients recover and without it a large proportion dies. Fortunately, a protective substance against certain types of pneumococci can be prepared from animals and administered to patients with pneumonia.

By the injection of horses with pneumococci the animal can be rendered immune against many times the otherwise fatal dose of pneumococci of the type with which the injection is made. The serum obtained from horses immunized against Type I and Type II pneumococci is effective in the treatment of patients with these two types of organisms, and there is a hopeful prospect of a potent serum against other types.

Recently Felton has been successful in concentrating the protective substances in immune horse serum and in making a potent solution effective in small volume for the treatment of patients with Type I and Type II pneumococcus pneumonia.

To be effective the antiserum must be given intravenously and within the first few days of the disease. In our experience, the serum is ineffective if given after the third day from the onset.

If possible the type of infection should be determined at once and specific intravenous treatment given if the disease is due to Type I or Type II pneumococcus.

If the type cannot be identified without delay, an initial injection of the antiserum against Type I and Type II may be given in typical cases and specific treatment continued only if the disease is found to be due to Type I or Type II.

Certain precautions should always be observed in the administration to man of serum obtained from an alien species, such as the horse. The antiserum should not be used without due regard to the risk in patients with a history of asthma, hay fever or known hypersensitiveness to horse serum. Hypersensitiveness should also be tested by the instillation of one drop of horse serum into the patient's conjunctival sac. If a local reaction follows, the serum should not be given.

The Department of Public Health of the Commonwealth of Massachusetts is conducting a study of lobar pneumonia. This study is supported by an appropriation from the Commonwealth Fund of New York City. At present the antipneumococcic serum manufactured by the Department of Health is available for distribution, only in certain selected parts of the State where there are hospitals adequately equipped for the typing of pneumococci, and by consulting physicians chosen by the Advisory Committee on Pneumonia. Equally potent concentrated antipneumococcic serum is, however, also available from certain commercial houses.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR FEBRUARY, 1932

Scarlet fever continues its high incidence noted in previous months.

Mumps also shows its increased prevalence.

Diphtheria for the first time in almost a year showed a change in its general downward trend. There were 26 more cases reported in February this year than last, but the number reported is still the second lowest ever recorded for the month of February.

The number of cases of measles, German measles, chicken pox and epidemic cerebrospinal meningitis is slightly below the usual incidence for the month of February.

The number of cases of lobar pneumonia dropped below 500 for the month of February for the first time since 1927.

The decrease in the number of cases of tuberculosis, pulmonary and other forms, still continues.

Typhoid fever, anterior poliomyelitis, whooping cough and influenza occurred about the usual number of times expected for this season.

More and more physicians are beginning to report gonorrhea and syphilis, so that the number of cases reported of these diseases continues to increase.

RARE DISEASES

Anterior poliomyelitis was reported from Boston, 1; Chicopee, 1; Danvers, 1; North Adams, 1; Total, 4.

Anthrax was reported from Lynn, 1.

Dysentery was reported from Wakefield, 1.

Encephalitis lethargica was reported from Springfield, 1.

Epidemic cerebrospinal meningitis was reported from Boston, 1; Framingham, 1; Leominster, 1; Peabody, 1; Quincy, 1; Springfield, 1; Total, 6.

Malaria was reported from Gloucester, 1.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES

	Cases in Entire Pop.				Case Rates per 100,000 Pop.		
	Feb. 1932	Feb. 1931	Proso. Index*	Epi. Index†	Feb. 1932	Feb. 1931	Expected Rates‡
All Causes	9107	9475	—	—	211.9	221.6	—
Ant. Polio.	4	4	7	.6	.1	.1	.2
Diphtheria	227	201	423	.5	5.3	4.7	9.8
Ep. C. S. Men.	6	12	8	.8	.1	.3	.2
Measles	1566	2196	2850	.5	36.4	51.4	66.3
Pneu. Lobar	492	753	621	.8	11.4	17.6	14.5
Scarlet Fever	2070	1510	1255	1.6	48.2	35.3	29.2
Tbc. Pulm.	293	395	360	.8	6.8	9.2	8.4
Typhoid Fever	14	12	11	1.3	.3	.3	.3
Wh. Cough	853	583	993	.9	19.9	13.6	23.1
Chicken Pox	919	1295	—	—	21.4	30.3	—
German Measles	62	226	—	—	1.4	5.3	—
Gonorrhea	525	483	—	—	12.2	11.3	—
Influenza	62	534	—	—	1.4	12.5	—
Mumps	1168	525	—	—	27.2	12.3	—
Syphilis	308	318	—	—	7.2	7.4	—
Tbc. Other Forms	33	33	—	—	.8	.8	—

*This index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

†This ratio expresses how prevalent the disease is compared with the index mentioned above; 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a smaller number a lesser prevalence than expected. This 2.0 would indicate twice the expected number, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927 issue of the *Boston Medical and Surgical Journal*.

‡Calculated from the Prosodemic Index.

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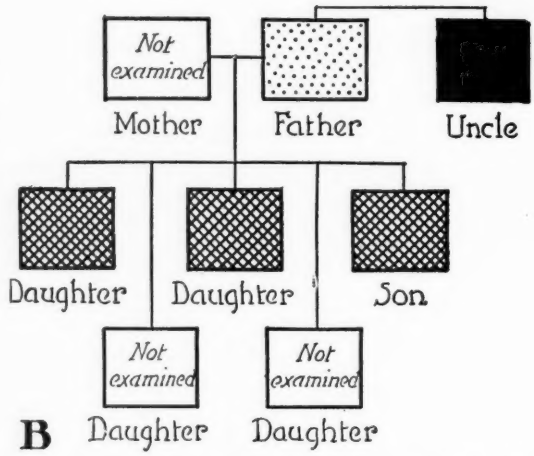

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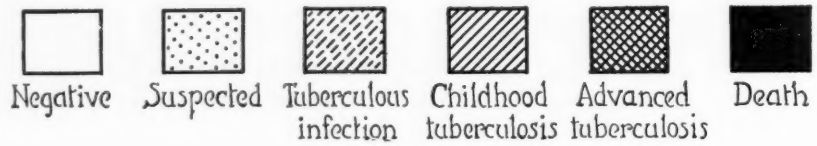

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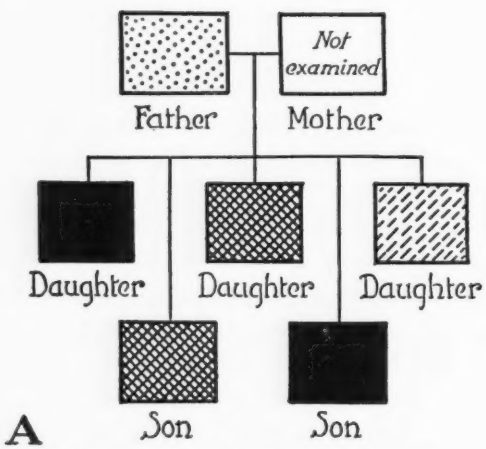

TRACING TUBERCULOSIS TO ITS SOURCE

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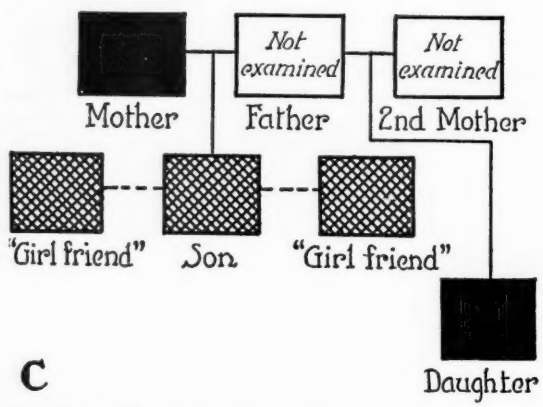

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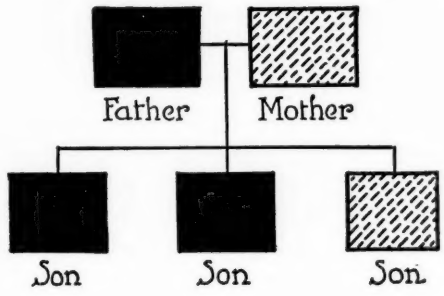

D

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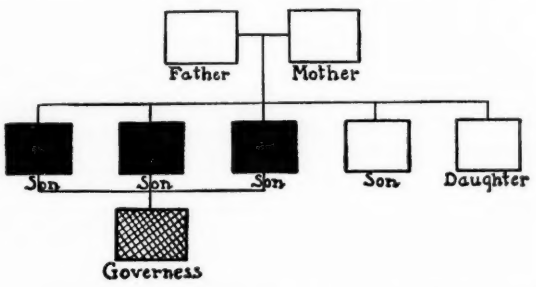

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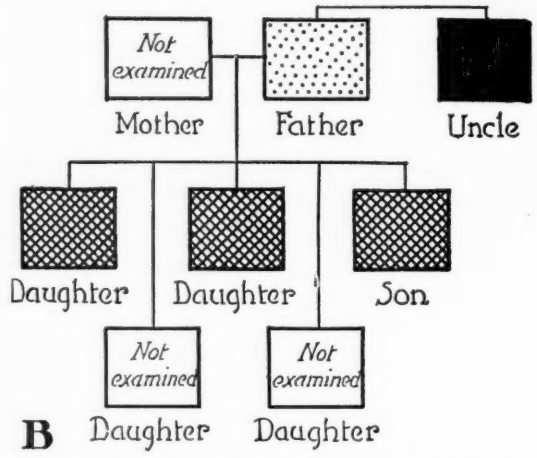

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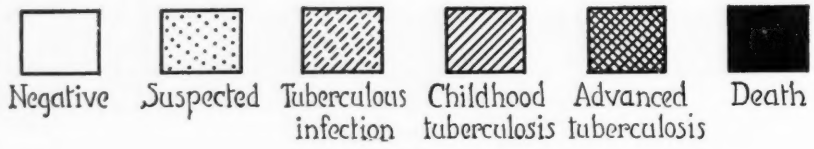

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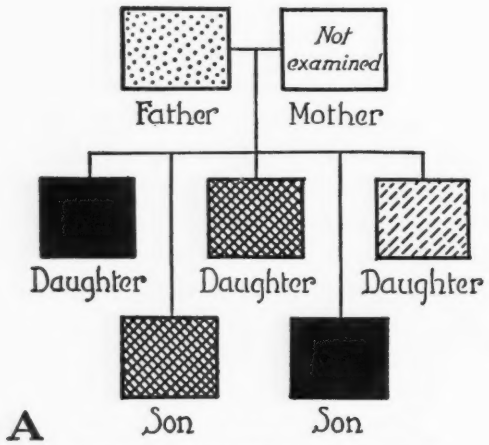

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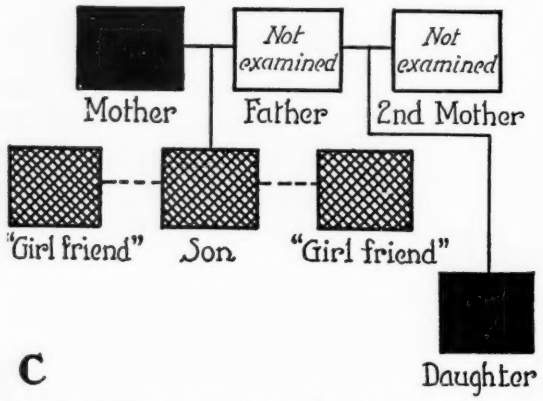

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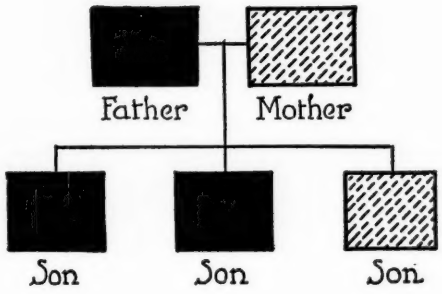

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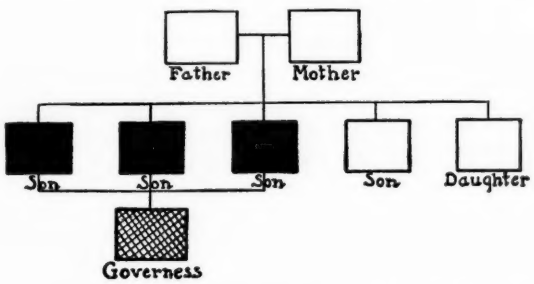

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American Pharmaceutical Association, and Dr. C. Rufus Rorem, formerly a staff member of the Committee. In November this Committee will issue its final report which will include recommendations based on its exhaustive five-year study into the problem of "the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life".

U. S. FAMILIES SPEND $22 ANNUALLY FOR DRUGS

It was discovered that the average expenditure for medicines is approximately $22 annually per family of four persons or $5.50 per member. Actual expenditures per capita vary widely, however, and tend to be highest in the cities.

Other important facts this survey disclosed include the following:

1. Patients attempting to diagnose their own ailments by comparing their symptoms with those described in patent medicine advertisements may frequently forego proper medical attention until it is too late to effect a cure.

2. "Official" medicines can usually be purchased by the pharmacist for a fraction of the price of proprietary medicines or ethical specialties, with a corresponding reduction in price to the patient.

MERCHANDISING ACTIVITIES MAKE REGISTERED PHARMACISTS AVAILABLE

3. Provided they were engaged in no other pursuits, approximately 10,000 pharmacists could fill the 165,000,000 physicians' prescriptions now annually filled by 115,000 registered pharmacists in 60,000 drug stores. Limiting the compounding of prescriptions to 10,000 pharmacists in as many drug stores, however, would leave many communities without pharmacists and in larger communities would spread the number of pharmacists, making it inconvenient for the public to obtain prompt prescription service.

4. Although regulations governing the pharmaceutical profession are strict enough, the privileges of unlicensed persons operating outside of pharmacy are so extensive that the public enjoys little protection in the sales of packaged medicines.

5. While self-medication is increasing, there is not available sufficient information on which the public can base its judgment as to what type of medicine may safely be used for the treatment of simple and minor conditions.

$1.50 PER CAPITA ANNUALLY EXPENDED THROUGH DOCTORS

6. Drugs prescribed or dispensed through doctors do not constitute a large portion of the total costs of medical care. Physicians' prescriptions plus the drugs dispensed in doctors' offices average approximately $1.50 per person per year.

"It is significant," the report reads, "that the costs of medicines to patients are still lower when the conditions of treatment permit a physician to prescribe only such medicines as he considers necessary to good results." Such conditions exist, according to the report, where medical service is rendered on an "annual" rather than a fee basis, as in industrial or university health services.

MILLIONS WASTED ON PATENT MEDICINES

Few of the so-called "patent medicines" are actually registered as to ingredients and granted patents from the United States Patent Office. Most of them are protected by trade names which become, through registration and usage, the property of the manufacturer or distributor. The formulas are secret.

The report states that "so long as secrecy of composition is permissible for medicines offered for self-medication, and so long as the public is kept in ignorance of the proper uses and value of common drugs, the quack will find some method to ply his trade".

Expenditures for fraudulent cures range from $15,000,000 upward each year.

RECOMMENDATIONS MADE FOR FUTURE OF PHARMACY

The authors made four recommendations based on their survey for the Committee on the Costs of Medical Care. They are the following:

1. Secret-formula drugs and medicines should be abolished through the compulsory disclosure on the label of the kind and quantity of medicinal ingredients. Those developing new and distinct preparations should be financially protected by appropriate privileges granted by a disinterested agency.

2. All manufacturers of drugs and medicines should be required to operate under annual licenses to be granted by the federal government upon the fulfillment of satisfactory conditions with regard to competency of personnel, equipment and sanitary surroundings, and standardization of finished products.

3. Agencies should be established to prepare and disseminate accurate information concerning the proper use of home remedies appropriate for self-medication with the aid of a committee of physicians and pharmacists of unquestioned reputation and standing. Universal and unnecessary use of self-prescribed medicine should be rigorously discouraged.

4. Professional knowledge of pharmacists should be used more adequately by reducing physicians' reliance on branded products; by permitting pharmacists to instruct drugstore customers in proper use of medicines purchased for self-medication, but not to the extent of diagnosing ailments or recommending medicines; by the pharmacist distributing information dealing with medicines and hygiene prepared by health departments; and by supplying information to the public concerning physicians and hospitals on the basis of data provided by local medical or hospital associations.—*Digest of a Report Published by the Committee on the Costs of Medical Care.*

WHAT IS MENTAL AND WHAT IS PHYSICAL?

The old, unproductive controversy over what is "mental" and what is "physical" in normal or abnormal functions is ending.

The discovery of regulating mechanisms—chiefly in the central nervous system—that enable whole systems of organs to act in harmony with other systems shows us that the minute study of a single organ is inadequate to explain even all of its own functions, much less the part it plays in the life of the organism as a whole. Thus the way is rapidly being cleared for the concept of man as an organism acting, even in his most circumscribed mental or physical activities, as a whole.—*Thomas W. Salmon.*

A CLAIM FOR A POSSIBLE CANCER REMEDY

Three physicians, Dr. R. M. Parr, Professor of Chemistry at the University of Illinois; Dr. C. S. Bucher, physician and surgeon, and Dr. R. S. Funk, bacteriologist, have announced their belief that selenium may have curative powers in connection with cancer. Some of the cases which have been recorded by this trio seem to have presented evidence of the value of this particular drug. This treatment has been rejected by other observers and has been definitely discredited by Dr. Fishbein. Our own Dr. Shields Warren has expressed doubt as to the evidence that has been submitted. Dr. Warren evidently believes that since there have been so many proposed treatments for cancer that physicians should maintain a very conservative attitude and not encourage these unfortunate people to expect very much until there is a unanimity of opinion as to the value of claims which are repeatedly coming to the attention of the profession.

BELIEF IN THE EXISTENCE OF A NEW ANESTHETIC

Reports before the American Chemical Society, at its New Orleans meeting March 27, set forth that a new so-called lingering anesthetic has been discovered. This is called diothane but its chemical name is hydrochloride of piperridion propanediol di-phenylurethane. It was reported in the paper by Dr. Y. H. Rider and E. W. Scott of the William S. Merrell Company of Cincinnati. This compound, according to Dr. Rider, is the only one at present available which is not only stronger than cocaine or novocaine but can be used satisfactorily in any surgical operation requiring local anesthesia. At the same time it is not habit-forming. It is less toxic than either cocaine or novocaine.

At the same session a salt from castor oil was spoken of as promising a new method of immunizing diphtheria and tetanus. The name of this derivative is soricin. The action of this particular drug seems to be its ability to antagonize poisons due to bacteria without killing the germs themselves. This opens the possibility of immunizing against deadly diseases without risk of poisoning from the immunizing substances.

RELATION OF MALARIA AND TUBERCULOSIS

At a recent Italian Medical Congress Dr. De Bernardinis, lieutenant colonel of the Army Medical Corps, discussed the question of malaria and tuberculosis. He believes that the arguments adduced in favor of the antagonism between malaria and tuberculosis may have no practical value so far as one diminishes the existence of the other except that, if a person with an unrecognized pulmonary tuberculosis were subjected to malaria, the infection of malaria might more definitely bring about evidence of the primary disease so that earlier treatment, helpful in tuberculosis, might be instituted. Other than this it is not generally believed that there is any relation between malaria and tuberculosis.

TYPHOID CARRIERS IN NEW YORK

The State Health Department of New York has reported 262 typhoid carriers under observation in 1931. The close supervision of these carriers has prevented the development of the disease in more than four cases.

ANOTHER VETERANS' HOSPITAL

A new Veterans' Hospital for the western district of New York will be built at Batavia, according to an announcement following approval of the location by President Hoover. A satisfactory site will be donated to the Government in that city with the expectation that a hospital located in or near Batavia would adequately serve veterans residing in western New York who are not now within reasonable traveling distance of existing hospital facilities. This seems to have met the approval of the American Legion.

A TRIBUTE TO DR. W. C. QUINBY OF BOSTON

Dr. Waltman Walters of Rochester, Minnesota, claims to have developed further surgical treatment of diseased kidneys as a result of his study of the stimulating experiences of Dr. W. C. Quinby, Urologist of the Peter Bent Brigham Hospital.

THE COSTS OF MENTAL ILLNESS

It is estimated that the annual economic loss in the United States from mental illness is approximately $742,000,000, according to Horatio M. Pollack, New York State Department of Mental Hygiene. Of this amount $575,000,000 covers the average annual earnings of more than 53,000 males and 38,000 females treated as first admissions. The loss for the nation as a whole has been estimated on the statistics for New York State for the fiscal year ended June 30, 1931, with proper factors taken into account. Benjamin Malzberg, Statistician, New York State Department of Mental Hygiene, corroborates Mr. Pollack's statement and calls atten-

tion to the fact that mortality is from three to six times as high as among the general population.

THE WORK OF THE PUBLIC HEALTH SERVICE IN CONNECTION WITH THE DEVELOPMENT OF THE NARCOTIC FARMS AND PROVIDING MEDICAL SERVICE TO FEDERAL PRISONERS

A report of interest dealing with a relatively new activity of the Public Health Service has recently been submitted to Congress by Surgeon General H. S. Cumming. This report indicates that during the past fiscal year studies have been continued on the nature of drug addiction and the best methods of treatment and rehabilitation of persons addicted to the use of habit-forming drugs; information has been disseminated on researches in this particular field; State and local jurisdictions have been coöperating with the view to their providing facilities for the care and treatment of narcotic drug addicts, while other agencies, both Governmental and Voluntary, have coöperated with a view to better coördination of effort in these particular functions.

Studies have been conducted dealing with this subject of the abusive use of narcotic drugs and the quantities of such drugs necessary to supply the normal and emergency medicinal and scientific requirements of the United States.

The site for the first narcotic farm, near Lexington, Ky., was acquired during the year and plans were begun for the development of the necessary buildings to accommodate 1,000 inmates. A site for the second narcotic farm, near Fort Worth, Texas, was selected by three Cabinet officers charged in law with this responsibility.

A significant change affecting the individual Federal prisoner occurred during the fiscal year ended June 30, 1931. Under the act approved May 13, 1930, the Service inaugurated a system for supervising and furnishing medical and psychiatric services for Federal prisons. This new function involved the employment of additional medical and technical personnel.

After preparing regulations governing the relationship to be maintained between the two Departments (Treasury Department and the Department of Justice), the work of furnishing medical service in the Federal prisons was inaugurated by the Public Health Service, beginning July 1, 1930. As rapidly as facilities would permit, the medical service in the various penal and correctional institutions maintained by the Federal government was taken over by the Public Health Service. Thus far, in the conduct of this important adjunct to the rehabilitation of Federal prisoners, the Public Health Service has been concerned almost wholly with the administrative problems involved. Future investigations and research studies have been planned, however, using the clinical material available in these institutions.—*United States Public Health Service.*

CORRESPONDENCE

DR. HARVEY PLAYS GUARDIAN TO PRINCE CHARLES

Mr. Editor:

The following quotation concerning Harvey is taken from "Mr. Charles King of England," by John Drinkwater (George H. Doran Co., New York, 1926):

"In 1645 the King left London under the low and heavy cloud of civil war. Parliament tried to keep his son in its power, but the diplomacy of Hyde prevented this, and on October 22 Charles was present, nominally as a captain of horse at Edgehill, his guardian on that day being no less a person than Dr. Harvey, who discovered the circulation of the blood, and who now at the age of sixty-four retired with his charges—James Duke of York being present also—to the shelter of a hedge on a hillside, and taking a book from his pocket pursued his studies while the first battle of the war raged on the Plain below. A cannon ball falling in the midst of the strange little party, it was deemed prudent to place the two boys in less mundane care, and Hyde took over the charge. But he, though less Olympian than Harvey, was no more of a soldier, and succeeded in mistaking a parliamentary troop for friends, escaping only through deft work performed by one of the equerries with a pole-axe."

Very truly yours,

WM. PEARCE COUES, M.D.

March 26, 1932

QUESTIONS RELATING TO THE FUNCTIONS OF THE BOARD OF REGISTRATION IN MEDICINE

To the Editor,
The *New England Journal of Medicine*,
Boston, Mass.

Dear Sir:

In the complete procedure adopted for the performance of the functions of the Board of Registration in Medicine, alternative methods for the solution of specific problems may be suggested at many points, and questions as to the wisdom of each possible solution will arise. Such question has arisen recently concerning appeal by the physician from a decision of the Board to revoke his license to practice medicine.

It is a question to the discussion of which, in any important way, the correspondence method is not adapted. Therefore I refrain from dwelling now on the main question and ask merely for space to comment briefly on the confusion shown in the letter which appeared in the *Journal* of March 31, 1932, under the caption "Attitude of the Committee on Ethics and Discipline on Proposed Revision of the Medical Practice Act."

Confusion arises in the first place because the word "appeal" is used in more than one sense. It is common practice to use many words in this

fashion, and confusion is avoided ordinarily because the context makes the meaning clear. Confusion arises when the context fails to elucidate and when in discourse the meaning of the word is changed without due warning. Thus the expression "convicted of misdemeanor", which is employed in the letter is an infelicitous choice, as "misdemeanor" has in the statute a technical criminal connotation. The statute refers also to "misconduct in the practice of his profession", the aura of which is different from that of "misdemeanor".

Under the present law, the physician certainly has the right of appeal to the Supreme Court using the word "appeal" in the ordinary sense. How the appeal shall be qualified the statute sets forth, and what the statute actually means by its qualification the Court has decided. So in the qualified sense the physician has no appeal. This is rather elementary, perhaps self-evident, and the confusion which has arisen on this point is more apparent than real.

But there is real confusion in the letter to which I have referred. The physician, it is stated, may be disbarred without a trial before the Supreme Court, using trial in the ordinary sense of hearing on the facts, while no lawyer may be so disbarred. The right of trial before the Supreme Court belongs to the lawyer, and the right to a re-trial "before a higher court", withheld from the physician, is "guaranteed under the law to the meanest citizen". This is indeed confusing, perhaps even "appalling", if true.

If the law does not regard the Board as a Court, there is no right of appeal to a Higher Court, except in the qualified sense indicated in the law. But a grave error lies in drawing a conclusion which is invalidated by the difference between the status of the physician and the status of the lawyer. The existence of this difference is detected but its nature is not examined. In what does the difference consist?

It is common knowledge that the lawyer who is admitted to the bar becomes an officer of the Court. He is not merely an advocate (without derogatory implication) but an officer of the law. In Massachusetts he is admitted to the bar by the Court (Superior or Supreme) and only by the Court can he be disbarred. The Supreme Court may, and in practice, generally does become for this particular class of cases, a court of first instance. The lawyer, except for his admission to the bar and disbarment therefrom, the physician, except for the revocation of his license to practice medicine, and the "meanest citizen", have the same status before the Supreme Court. One may arrange the terms physician, lawyer, and meanest citizen in the order of comparison that suits one's fancy.

The subject is full of interest and merits continued attention and investigation.

Yours truly,

STEPHEN RUSHMORE.

ARTICLES ACCEPTED BY THE AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

535 North Dearborn Street, Chicago, Ill.,
March 26, 1932.

Editor, The *New England Journal of Medicine,*

Dear Doctor:

In addition to the articles enumerated in our letter of February 26 the following have been accepted:

Connaught Laboratories
- Insulin—Toronto, 40 Units, 10 cc.
- Insulin—Toronto, 80 Units, 10 cc.
- Insulin—Toronto, 100 Units, 10 cc.

Cutter Laboratory
- Diphtheria Toxin Antitoxin Mixture 0.1 L + (Goat)—Cutter

Lederle Laboratories, Inc.
- Solution Liver Extract Parenteral (Lederle) Refined and Concentrated

Eli Lilly & Company
- Merthiolate Ophthalmic Ointment 1:5000
- Tincture Merthiolate 1:1000

H. K. Mulford Company
- Pneumococcus Antibody Globulin Type I—Mulford

National Drug Company
- Diphtheria Toxoid, one vial package
- Pollen Antigens—National, one 5 cc. vial package
- Pollen Antigens—National, four 1 cc. syringe packages
- Pollen Antigens—National, sixteen 1 cc. syringe packages
- Schick Test (Peptone Diluent)
- Von Pirquet Test for Tuberculosis

Yours truly,

W. A. PUCKNER, *Secretary,*
Council on Pharmacy and Chemistry.

RECENT DEATHS

HUNT—DR. WILSON E. HUNT formerly living at 332 Pleasant Street, Malden, died suddenly March 23. He had been a prominent factor in the medical life of Malden having been connected with the Staff of the Malden Hospital for many years and a practitioner of prominence. Dr. Hunt was born in Rockland, Massachusetts, December 13, 1875, the son of Frederick and Arabella Hunt, the latter a member of a well-known Marshfield family. Dr. Hunt received his early education at Temple Union Academy at Meredith, N. H., of which he later became trustee. Before that time he had studied at Kezer School at Canterbury, N. H. He attended lectures at Dartmouth Medical School for two years and later came to Harvard Medical School where he continued his studies and was graduated with the class of 1902. He was especially interested in the pioneer movement of the establishment of clinics in

and about Boston. He was a member of the Massachusetts, Middlesex and Malden Medical Societies, was prominent in Masonry, a member of the Odd Fellows, the Kiwanis Club, the American Legion and other social organizations. During the late war Dr. Hunt served overseas for eight months as a captain in the medical corps. He is survived by his wife, who was Carrie Rogers Shaw of Prince Edward Island. He is also survived by his mother who is living in Boston.

KIMBALL—Dr. James H. Kimball died March 23 at 941 Main Street, Melrose Highlands. He was eighty-eight years of age having been born in Boston in 1844. He was graduated from the Harvard Medical School in the class of 1867. He practiced in Lynn for a time before moving to the Greenwood section of Wakefield. Of late he had been living in Florida because of failing health. After having been interested in dealing with the yellow fever epidemic in Florida several years ago, he returned to Wakefield and was recognized as a public-spirited citizen. Early in life he was a member of the Massachusetts Medical Society, but this relation was terminated in 1911. There are two surviving sons, Henry M. and Franklin E., who reside in New York.

OBITUARIES

RESOLUTIONS ON THE DEATH OF DR. JOSEPH A. BEDARD

On January 26, 1932, the Visiting Staff of the Lynn Hospital lost by sudden death one of its most active members, Dr. Joseph Armand Bedard. It is fitting that we enter on our records a tribute to his memory, and our grateful appreciation of the many years of faithful service he gave the hospital.

Our meetings were enlivened by his wit, yet he was sensitive to the tragedy as well as to the comedy of life. A scholar with cultured tastes and high ideals, he practiced medicine as an art not a trade. Liberal and tolerant in his views, he was ready to forgive all frailties but one, dishonesty. Sincerity, in fact, was his outstanding characteristic. He was loyal to the land of his birth and to his adopted country. He was loyal to his hospital, to his patients, to his profession. A good physician, a good citizen, a good friend, we deplore his death, and desire to assure Madame Bedard and her family of our sincere sympathy.

For the Visiting Staff,
Herbert W. Newhall,
Ralph E. Bicknell,
George H. Kirkpatrick.

March 25, 1932.

RESOLUTIONS ON THE DEATH OF DR. CHARLES A. LOVEJOY

By the death of Dr. Charles A. Lovejoy on February 17, 1932, the Visiting Staff of the Lynn Hospital has lost the last of its original members, a man whom all of us have respected for his sound judgment, admired for his serene equanimity, and loved for his genial kindness.

He was one of the prime movers in founding this hospital and its first superintendent. Never was any service to the sick and needy of this city given more freely and unselfishly. It is not easy for us to realize the difficulties that faced him half a century ago. It was not simply a question of raising funds. The public had to be convinced of the need of a hospital. The unwillingness of patients to leave their homes and their dread of entering a hospital had to be overcome. Trustees with the best of intentions were absolutely ignorant of their duties, and had to be taught hospital management. Largely through Dr. Lovejoy's enthusiasm and wise leadership these and many other obstacles were met and successfully surmounted. The debt of gratitude we owe him can be paid only by following his example of untiring service.

We desire to send to his family our sincere sympathy, and to express, besides our appreciation of all he had done for the hospital, the regret that each one of us feels at the loss of so good a friend, so kind a counselor.

For the Visiting Staff,
Herbert W. Newhall,
Elgin W. Jones.

March 25, 1932.

RESOLUTIONS ON THE DEATH OF DR. THOMAS M. DURELL

The Staff of the Somerville Hospital greatly laments the death of Dr. Thomas M. Durell.

With his passing we have lost a most honored friend and leader in the older group. His name seems inseparable from the Hospital. Dr. Durell was not only connected with the Hospital from its opening in 1893, but was also active in obtaining the original funds for its establishment. He was Clerk of the Corporation from 1891-1895.

Beginning his career, soon after the recognition of the Lister Technic in America, surgery soon became his major interest.

At the opening of the Hospital he was appointed Chief of Service a position which he held until his resignation in 1912. His work was of the highest quality and he was much esteemed as an operator and consultant. However, he never gave up his interest in general medicine and, until his last illness, his advice was often sought by his fellow practitioners.

From 1898-1919 he served on the Medical Board of the Hospital and gave his unsparing efforts. During the influenza epidemic in 1918 he, without hesitation, sacrificed his large private practice that he might do a greater work for the State. As Assistant Surgeon General, at this time, his work received wide recognition.

Among the younger men at the Hospital who were not fortunate enough to have been associated

with Dr. Durell in his earlier career, he will be remembered chiefiy as Medical Examiner, a position he held with great honor for thirty years. In this capacity his fairness and courtesy in dealing with the profession was outstanding.

His long and trying illness was borne with remarkable courage and fortitude.

In his death, the Hospital, each member of its staff, and the community at large have sustained an irreparable loss.

The Staff of the Somerville Hospital extends its deepest sympathy to Mrs. Durell and other members of his family.

Committee:

LORING H. RAYMOND, M.D.,
EDMUND H. ROBBINS, M.D.,
EUGENE L. MAGUIRE, M.D.

NOTICES

MEDICAL CLINIC AT THE PETER BENT BRIGHAM HOSPITAL

At 3:30 P. M., on Thursday, April 14, in the Amphitheatre of the Peter Bent Brigham Hospital, a medical clinic will be given by Dr. Henry A. Christian, to which physicians are cordially invited. This clinic will conclude the present series.

A CORDIAL INVITATION FROM THE MASSACHUSETTS DENTAL SOCIETY TO THE MEMBERS OF THE MASSACHUSETTS MEDICAL SOCIETY

Office of the President

March 22, 1932.

Dr. Walter L. Burrage,
182 Walnut Street,
Brookline, Massachusetts.

Dear Dr. Burrage,

The Massachusetts Dental Society extends a cordial invitation to the members of the Massachusetts Medical Society to attend the lecture by Dr. E. V. McCollum of Johns Hopkins University on "The Application of Nutritional Science in Daily Life" to be held at the Hotel Statler, Georgian Room, on Tuesday, May 3, at 8 P. M.

This lecture is a feature of the program of the Sixty-eighth Annual Meeting, Hotel Statler, Boston, May 2, 3, 4, 5, 1932.

Very truly yours,
WM. H. GILPATRIC,
President Massachusetts Dental Society.

March 23, 1932.

Dr. William H. Gilpatric, President
Massachusetts Dental Society,
538 Commonwealth Avenue, Boston.

Dear Dr. Gilpatric,

Thank you for your polite invitation to the Fellows of the Massachusetts Medical Society to attend the lecture by Dr. E. V. McCollum on "The Application of Nutritional Science in Daily Life" to be given in the Georgian Room of the Hotel Statler, May 3, 1932, at 8 P.M.

I am sending your letter to the official organ of the Massachusetts Medical Society, the *New England Journal of Medicine*, for publication in an early issue.

Faithfully yours,
WALTER L. BURRAGE, *Secretary.*

THOMAS WILLIAM SALMON MEMORIAL LECTURES

The second lecture will be given on April 15 at the New York Academy of Medicine. It discusses the adjustments in our concepts of pathology necessary if we are to do justice to an organismal psychobiology, and the consequent reduction of psychobiological disorders to terms of a genetic-dynamic "experiment of nature," viewing them not as symptoms of disease entities but as concrete ergasias (a term suggested for all psychobiologically integrated functioning).

The third lecture (April 22) outlines what, in the light of these conceptions, we are actually doing in therapy, and with what division of labor; and it lays particular emphasis on the great need of a widely acceptable consensus concerning personality disorders for a sound promotion of a psychiatry and mental hygiene based on a full appreciation of the biographic as well as structural-functional organization of man's personality and life function.

TWO COURSES SPONSORED BY THE NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS

The National Society for the Prevention of Blindness plans to sponsor, next fall, two courses for medical social service workers in eye hospitals and clinics. The Society will coöperate with Washington University, St. Louis, and the Massachusetts Eye and Ear Infirmary, Boston, in giving these courses which will probably extend through a period of 16 weeks.

Anyone with social service experience who is interested in this more specialized training — for which a few limited scholarships may be available later — should communicate with Miss Eleanor P. Brown, Secretary of the National Society for the Prevention of Blindness, 450 Seventh Avenue, New York City.

ANNOUNCEMENT

Jacob Lerman, M.D., announces that he will see a limited number of private patients in his office at the Massachusetts General Hospital, telephone Capitol 4300.

THROUGH CAR TO NEW ORLEANS MAY 7, 1932

Dear Doctor:

I take pleasure in advising that the Southern Railway is arranging to operate a special through

sleeping car from Boston to New Orleans, La., without change, for members and their wives attending the meeting of the American Medical Association, on the following schedule:

Lv. Boston—12:00 Noon—May 7.
Lv. Providence—1:04 P. M.—May 7.
Ar. New Orleans—7:55 A. M.—May 9.

We can arrange to make reservations in this through car for you either from Boston or Providence, and in order that you may avail yourself of excellent accommodations, should you desire to travel in this car, it is our suggestion you make your reservations as promptly as possible.

If, however, you desire to travel via some other schedule and date, we will be very glad to attend to your arrangements via any schedule.

Yours very truly,

CLAUDE T. HUNT,
New England Passenger Agent,
Southern Railway.

RADIO HEALTH MESSAGES

APRIL-MAY-JUNE, 1932

Sponsored by the Public Education Committee of the Massachusetts Medical Society and the Massachusetts Department of Public Health.

Courtesy WBZ. Tuesdays, 4:20 P.M.

April
12 Infantile Paralysis
19 Appendicitis
26 How Are Your Arteries?

May
3 Physical Culture in School Children
10 The Dangers of Being Fat
17 The Deaf Child
24 Medical Care
31 Growth and Development

June
7 Prenatal and Maternity Service
14 New Findings in Oral Hygiene
21 Community Public Health
28 Communicable Diseases

STATE HOUSE BROADCAST

Sponsored by the Massachusetts Department of Public Health.

Courtesy WEEI. Fridays, 12:30 P.M.

Health matters of public interest discussed by the Division Directors of the Department.

RADIO HEALTH FORUM

Queries from the public are answered under the sponsorship of the Department of Public Health.

Courtesy WEEI. Fridays, 4:50 P.M.

Questions on Health and Prevention of Disease may be sent to Radio Health Forum, State Department of Public Health, State House, Boston.

REPORTS AND NOTICES OF MEETINGS

PLYMOUTH DISTRICT MEDICAL SOCIETY

The March meeting of the Plymouth District Medical Society was held at the Goddard Hospital on March 17, 1932. As the members of the society convened they were received by the committee consisting of Dr. Peirce H. Leavitt, Dr. Ralph C. McLeod and Dr. George A. Fuller.

The meeting was called to order by Dr. John J. McNamara, president of the Plymouth District Medical Society, who gave a short address of welcome and complimented the society on having such a large attendance. There was a short business meeting. Dr. Alfred C. Smith, who was called upon to act as secretary, read the records of the last regular meeting. He also read two communications. The first was from the Legislative Committee of the Massachusetts Medical Society headed by President Halbert G. Stetson, the other members being Executive Officer Thomas J. O'Brien, Dr. Frederick E. Jones, Dr. Arthur W. Marsh and Dr. Shields Warren. This communication, addressed to President McNamara, read as follows:

"The Legislative Committee wishes to express its appreciation for the assistance which you and the members of your District Society have given in opposing the chiropractic petition. The members of the Legislature are more influenced by the expressions of opinion of their constituents than they are by the arguments presented at the time of the hearing."

The second letter called attention of the society to one of its members who is attempting to sell pills and tablets to the public under the guise of "The Family Doctor's Laboratory", signed—A. Burack. The society unanimously voted to refer this matter to the Committee on Ethics of the Massachusetts Medical Society. As Dr. Alfred C. Smith, a member of our society, is on that committee, it was turned over to him for investigation. The resolution committee on the late Dr. Wilfred Brown, Dr. Gilman Osgood, Chairman, was granted further time.

President McNamara then called upon Dr. Thomas H. McCarthy, chairman of the Legislative Committee, to report on the various bills that his committee had under consideration. Dr. McCarthy said:

"I wish primarily, in behalf of the Legislative Committee, to thank all of those physicians in this district who so kindly took the trouble to circulate petitions in order to secure the names that were so necessary in opposition to the Chiropractic Bill. Of the thirty petitions that were sent out, fifteen physicians responded and secured between six and seven hundred names of citizens in this district. I wish especially to compliment Dr. I. I. Richmond of East Bridgewater, who handed in over one hundred names, and to say to every one of you that if this bill should pass and become a law every doctor in Massachusetts would be affected. At the hearing in Boston there were over three thousand in favor of the chiropractic bill in the State House. When it came to a show

of hands by those in favor, all three thousand or more chiropractic sympathizers raised their hands. When those opposed were asked to raise their hands, only fifteen doctors responded. What do you think of that for a showing of such a powerful organization as the Massachusetts Medical Society?

"The bill now is in the hands of the committee. If it is reported favorably, it will go to the House and Senate. If passed and signed by the Governor, it will become a law. If this is done the income of every doctor in the State of Massachusetts will be affected. It should be thoroughly understood that, so far as the members of the Massachusetts Medical Society are concerned, if the Chiropractors will raise their standards as the Osteopaths of Massachusetts have done, and accept the single standard as designed by the Legislature, we will heartily welcome them as competitors in our profession. When poorly trained men are allowed to treat the ills of the public, anyone can appreciate the harm which might result. We have three Senators in our district and I appeal to every one of you to have contact with these men, either by letter or verbally, and explain to them the necessity of defeating this bill. See every Representative that you possibly can and tell him why the Chiropractors should not be allowed to practice in the State of Massachusetts.

"In a communication yesterday from Dr. Thomas J. O'Brien, Executive Officer of the Massachusetts Medical Society, he told me that the Vaccination bill, sponsored by Dr. Woodward, had been given leave to withdraw and all of the other Vaccination bills had also been reported adversely by the committee."

After Dr. McCarthy had concluded his remarks, Dr. George A. Moore spoke briefly on the bill to license Magnetic Healers. As this was the last meeting before the annual meeting for election of officers of the society, the following nominating committee was elected: Dr. Thomas H. McCarthy, chairman; Dr. Edgar Hill of Plymouth and Dr. Richard B. Rand of Abington.

Dr. McNamara, president of the society, then turned the meeting over to Dr. Samuel W. Goddard of the Goddard Hospital. Dr. Goddard stated that it is very gratifying to see the response by the physicians and surgeons of the district to the invitation to meet at this hospital.

"If I had known", Dr. Goddard continued, "that so many were planning to attend, I would have arranged to have the meeting in the large hall. I think everyone knows the speaker of the morning, Dr. Philemon Truesdale of Fall River. He is the pioneer in the work that he will discuss. He is one of the founders of the American College of Surgeons, and by his excellent work he is known all over New England. We are extremely fortunate in having him with us this morning. Without further words I am going to introduce to you Dr. Philemon Truesdale of the Truesdale Hospital in Fall River."

Dr. Truesdale said, "When I listened to Dr. McCarthy's appeal to the Medical Profession I felt that it was enough to bring tears to our eyes. Perennial bills demand a good deal of attention. However, in the case of this particular bill the proponents are working for their bread and butter, while with us the opposition is a labor of love. Evidently we are waiting for the third alarm and it seems as though that alarm has arrived. Every member of this powerful Massachusetts Medical Society should get to work so that we can protect the high standing that we now have.

"This morning I am going to discuss the subject of Hernias. I am deeply indebted to the Goddard Hospital and its whole staff. The first picture, which is one of Diaphragmatic Hernia, will now be shown. You do not see a case where a gastric ulcer is associated with an abdominal hernia once in a lifetime. Since there are only seventeen on record, it is apparent that it is a very rare condition."

Dr. Truesdale then showed the illustration of a very remarkable case of diaphragmatic hernia. The work from the beginning to the end of the case was shown on the screen and each move leading to the conclusion of the case was explained. The picture was enjoyed by everyone.

The next picture shown by Dr. Truesdale was a talking motion picture of Prolapse of the Uterus. This case, like the first, was explained in detail as the operation was depicted. Both pictures were very instructive. After Dr. Truesdale had concluded, he was given a unanimous vote of thanks and a long round of applause for his excellent program. Dr. Goddard then turned the meeting back to Dr. John J. McNamara.

Dr. McNamara said, "I think the society was very fortunate in having Dr. Philemon Truesdale of Fall River this morning. Dr. Truesdale was really the pioneer in talking motion picture surgery. He is a man of keen intellect and wonderful personality."

Dr. McNamara, after saying that no words of his could adequately thank Dr. Truesdale, announced that the next meeting would be held at the Ducey Hospital on the third Thursday in April.

After the meeting had adjourned, Dr. Samuel W. Goddard asked the members of the society to adjourn to the reception room. A little later they were invited to the banquet hall where a five-course dinner was served. Those seated at the head table were Dr. Samuel W. Goddard, Dr. Philemon Truesdale, Dr. Thomas H. McCarthy, Dr. John J. McNamara, Dr. George A. Moore and Dr. Charles G. Miles. After the dinner a rising vote of thanks was given to the Goddard Hospital for its hospitality. Two thirds of the members of the Plymouth District Society were present, as well as physicians and surgeons from many parts of Plymouth, Norfolk and Bristol counties, a total of about seventy-five. It was without doubt one of the finest meetings ever held.

THE SOUTH END MEDICAL CLUB

Dr. Douglas A. Thom, Professor of Psychiatry at Tufts College Medical School, lectured on The Mental Health of the Child, at the South End Medical

Club meeting held March 15, at the office of the Boston Tuberculosis Association. A brief digest of the address follows:

"Mental Health is a state of mind which permits the individual to approach his maximum efficiency and to attain those permanent satisfactions out of life with a minimum amount of friction and conflict. In other words, good mental health leads to a satisfactory social adjustment and efficiency.

"No small per cent of all the patients we see in hospitals, dispensaries, and in our private offices are incapacitated because of poor mental health. After a patient has been subjected to a careful clinical examination and the various laboratory tests, x-ray examinations, and so forth, we are still unable to interpret the complaints and symptoms of these patients in physiological terms. They represent the so-called psycho-neurotic individuals who are immature emotionally and are endeavoring to meet the problems of life with habits and personality traits and conduct patterns that well might have served a good purpose at eight years of age, but are totally inadequate at twenty-eight. Childhood is the time to see that the individual is equipped with the tools in the form of habits and emotional stability as well as good physical health with which to meet the problems of adolescent and adult life."

Dr. Thom reviewed the development of the habit clinics which were started for children at the South Bay Union Settlement House ten years ago and told how these clinics have developed not only here in Boston and in Massachusetts, but throughout the country.

It was pointed out that the child who is unduly sensitive, cruel, jealous, shy, lacking in self-confidence, and oftentimes with physical evidences of mental conflict such as convulsive phenomena, tics, mannerisms, etc., has poor mental health.

It was also pointed out that all too frequently the problem of the child was but a symptom of a poor or inadequate environment. Feelings of inferiority may be due to the fact that some minor physical inferiority was stressed by the over-solicitous parent, or that it may be due to mediocre intellectual equipment trying to compete with those who are superior. In other instances it was shown that feelings of inferiority may evolve around undesirable habits such as enuresis, and masturbation or that the child who has been subjected to stern, rigid disciplinarian attitudes of parents where standards are so high that the child never gets any of the satisfaction that comes with success. The child who feels inferior may react to this feeling by taking the attitude that he is right and the world is wrong, purely as a protective mechanism. He may run away from the real problems of life and try to get his satisfactions out of his phantasies and day dreams. He may find a retreat in illness or turn to delinquency as a means of putting himself across.

The important point in the discussion was that all these problems should be approached as the physician would approach medical symptoms and signs and that the underlying motive for the conduct is the important thing, just as determining the pathological lesion is essential in the treatment of disease.

HARVARD MEDICAL SOCIETY

The regular meeting of the Harvard Medical Society was held in the amphitheatre of the Peter Bent Brigham Hospital on March 22. Dr. S. Burt Wolbach presided.

The surgical case was presented by Dr. Du Mortier. A 69-year-old housekeeper entered the hospital two days previously complaining of nausea, vomiting, and swelling in the right upper quadrant of two days' duration. She had been operated upon for an incarcerated hernia in 1914 with relief. She entered the hospital in 1928 complaining of occasional nausea, vomiting, jaundice, and right upper quadrant pain during the previous two years. Dr. Cheever at operation found a large gall bladder, and a thickened, finely nodular pancreas. It was believed to be carcinoma, although no specific nodes were found. The gall bladder was drained and the patient was discharged three weeks later.

She reëntered the hospital two weeks ago complaining of increasing weakness, dyspnea, and headaches. Her blood pressure was 220/106. She was digitalized and discharged a week before the final admission. On March 20 she had severe right upper quadrant pain lasting throughout the night, nausea, vomiting, and distention. She returned to the hospital. She showed, on examination, marked arteriosclerosis, many extrasystoles, and a blood pressure of 150/90. The right upper quadrant was tender. A lemon-sized mass could be felt at that point. The right rectus was splinted. The white count was 39,000. She improved after morphine and glucose. She is believed to be suffering with intermittent obstruction of the cystic duct. The original pancreatic lesion must have been pancreatitis.

The medical case was presented by Dr. Davenport. A forty-nine-year-old machinist entered the hospital a month ago complaining of abdominal pain of one month's duration. Five of his relatives had died of cerebral shock. His past history was irrelevant except for a chancre about twenty years ago which was treated locally. His present illness began about six months ago when he began to have colicky epigastric pain appearing one to two hours after meals, occasionally relieved by food. It soon disappeared after treatment but recurred two months before admission. On physical examination he appeared cachectic. The pupils were unequal, Argyll-Robertson in type. There were posttussal râles and dulness in the right apex. The heart was greatly enlarged, with increased dulness on percussion in the second, third, and fourth left interspaces. There were systolic and early diastolic murmurs over the whole precordium. The diastolic

murmur was most marked at the base. The reflexes were normal.

Soon after admission he vomited a liter of coffee-ground material. X-rays taken later showed pyloric ulceration and obstruction, aneurysm of the aorta, and a negative right apex. The blood and spinal fluid Wassermanns were strongly positive. He has been placed upon the Sippy diet, and arsphenamine and mercury succinimide injections. His peptic ulcer need not necessarily be of a syphilitic nature.

Dr. W. G. MacCallum, Professor of Pathology in Johns Hopkins Medical School, spoke upon "Calcification of Arteries and Associated Osteitis Fibrosa." In addition to these subjects he discussed the general problem of calcification.

The mechanism of ossification has never been satisfactorily explained. In man, deposition of calcium and phosphorus takes place in very definite proportions and in very definite locations. The process of calcification thus seems to be very specific. There must be some peculiar characteristic of the tissue in which the calcium is deposited. This tissue is cartilage, but much cartilage is not calcified. It would seem possible that there is some hypothetical substance in certain cartilages which serves to cause the deposition of bone.

It has been suggested that phosphatase may be the agent. However, this seems an inadequate explanation, for this enzyme is found throughout the body.

Dr. MacCallum has found that iron can be easily stained under the periosteum of growing bone. This iron is not found in adult bone. It may be of significance, for an iron-protein compound may act as a catalyst in the process of calcification. Ordinary iron is inactive, but Warburg has shown that activated iron can be prepared by special processes.

Cartilage soaked in a 1/100,000 solution of ferric citrate in vitro will absorb iron, which can be stained. If it is then immersed in a solution of calcium phosphate, calcification will proceed in the iron-soaked cartilage.

The constancy with which iron is found in growing bone makes it appear that it is of some significance. It has not been found possible to stain the iron in alcohol fixed tissue, but only in that fixed in formalin. This may be due to the fact that the iron is in a peculiar form.

The explanation of pathological calcification is as difficult as that of normal calcification. It has been said that necrosis is necessary, but calcification is often seen in injured rather than necrotic tissues. Others have said fat is necessary; decomposing fats form calcium soaps, which are gradually changed by carbon dioxide and circulating phosphates into bone. However, Wells has been unable to find soaps in these spots. Phosphatase would only set free a little more phosphate of which there is already an adequate supply, so it cannot be satisfactorily regarded as a catalyst.

The iron line can be shown in all these cases just underlying the calcium. It is alluring to think of it as a catalyst in abnormal as well as in normal calcification.

The control of calcification is complex. The parathyroids are of great importance, in considering this process as well as the renal and fecal thresholds for calcium and phosphorus. Ergosterol also affects the process.

The mode of action of ergosterol is not clear. It is of most value in rickets, in which it is supposed to accelerate absorption of calcium and phosphorus. The blood changes of calcium and phosphorus, however, in this disease are not very remarkable. It seems that there may be a defect in some unknown substance. This may be iron, since it is scattered and exists in small quantities in rickety bone. Ergosterol may increase the absorption of iron or may activate it.

To illustrate the relation of the parathyroids to calcification, Dr. MacCallum summarized several protocols of autopsies which he has studied. Two cases had parathyroid tumors with extensive metastatic calcification. In these cases the tumors were composed of clear cells. Calcium was observed in the arterial walls of the extremities, in the alveolar walls and veins of the lungs, in the kidneys and in the mesenteric arteries. Three cases had parathyroid tumors without such calcification, while six others had extensive calcification without parathyroid tumors. No cases of true osteitis fibrosa were observed in this series.

The paper was discussed by Drs. F. B. Mallory, Aub, Codman, Bauer, and Wolbach.

WEBSTER-DUDLEY MEDICAL CLUB

The regular meeting of the Webster-Dudley Medical Club was held at the Joslin House, Webster, Mass., March 30, at 8 P.M.

The meeting was preceded by an operative teaching clinic held at the Webster District Hospital all day by Dr. Carl Bearse of the Beth Israel Hospital, Boston, Mass.

INEZ M. CURRIE, M.D., *Secretary.*

BETH ISRAEL HOSPITAL HOUSE OFFICERS' ALUMNI ASSOCIATION

The annual meeting of the Beth Israel Hospital Alumni Association will be held on Wednesday, April 13, 1932.

PROGRAM

Speaker—William B. Castle, M.D. Subject—The Treatment of Anemia.

Business—Election of officers.

RUTH WEISSMAN, M.D., *Secretary.*

THE AMERICAN PROCTOLOGIC SOCIETY

The thirty-third Annual Meeting of the American Proctologic Society will be held in Memphis on Friday and Saturday, May 6 and 7, 1932.

This Society defines the scope of its especial interest to be restricted to the rectum, anus and

colon and in its announcement invitations are extended to regular and authorized practitioners who are members of the American Medical Association to attend its sessions.

Among the attractive features of these sessions are operative clinics, pathological demonstrations and social functions which will include ladies. Papers will be read covering the diseases of these organs including a comprehensive consideration of rectal malignancy.

Since the meetings of the Proctologic Society precede those of the American Medical Association the suggestion is made that physicians en route to New Orleans may profitably plan to start a few days earlier and stop over at Memphis.

Further information may be obtained by addressing Dr. Curtice Rosser, 710 Medical Arts Building, Dallas, Texas.

THE NEW ENGLAND ROENTGEN RAY SOCIETY

The next meeting will be held at the Boston Medical Library, Friday night, April 15, 1932, at 8:15 P.M.

SCIENTIFIC SESSION

Dr. George W. Holmes will present the following program from the X-ray Department of the Massachusetts General Hospital:

Case Reports

Dr. Ralph Miller, Dr. Arthur Soule, Jr., Resident Radiologists.

Lymphoma of the Stomach and Duodenum.

Dr. William C. Martin, Assistant Roentgenologist.

Prepyloric Ulcerations.

Dr. Aubrey O. Hampton, Assistant Roentgenologist.

Fractures of the Skull.

Dr. Robert G. Vance, Visiting Roentgenologist.

T. R. HEALY, M.D., *Secretary.*

370 Marlborough Street, Boston, Mass.

ESSEX NORTH DISTRICT MEDICAL SOCIETY

CORRECTED NOTICE

The next meeting of the Essex North District Medical Society will be held Wednesday, May 11, at Andover Academy, dinner at Phillips Inn, talking movies.

E. S. BAGNALL, *Secretary.*

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Massachusetts General Hospital will be held in the Moseley Memorial Building on Thursday, April 14, 1932, at 8:15 P.M.

PROGRAM

1. Presentation of Cases.
2. "Observations Upon the Heart in Hyperthyroidism, and in Thyroxinized Animals." Dr. E. C. Andrus, Associate Professor of Medicine and Associate Physician, Johns Hopkins Hospital.

Discussion will be opened by Dr. Paul D. White, Dr. Lewis M. Hurxthal and Dr. Jacob Lerman.

Physicians, Medical Students and Nurses are cordially invited to attend.

COMMITTEE ON HOSPITAL MEETINGS.

THE ANNUAL MEETING OF THE MASSACHUSETTS TUBERCULOSIS LEAGUE

The annual meeting of the Massachusetts Tuberculosis League will be held Thursday, April 28, at the Boston Y. W. C. A. rooms, Stuart and Clarendon Streets, beginning at two o'clock.

A Health Education Program will be the subject for discussion after the business session.

JOINT MEETING OF THE GREATER BOSTON MEDICAL SOCIETY AND THE TRUDEAU SOCIETY

A joint meeting of the Greater Boston Medical Society and the Trudeau Society will be held on Tuesday, April 12, at 8:15 P.M. at the Beth Israel Hospital.

PROGRAM

A Business Man Looks at Medicine. Edward A. Filene.

Discussion: Roger I. Lee, M.D., Charles F. Wilinsky, M.D.

BERNARD I. GOLDBERG, M.D.,
Secretary, Greater Boston Medical Society.

THE NEW ENGLAND DERMATOLOGICAL SOCIETY

The annual meeting of the New England Dermatological Society will be held on Wednesday, April thirteenth. There will be a clinical meeting at the Boston City Hospital Skin Out-Patient Department at three o'clock and a dinner at the University Club at seven P. M.

WM. P. BOARDMAN, *Secretary.*

HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held in the Peter Bent Brigham Hospital Amphitheatre (Van Dyke Street entrance), Tuesday evening, April 12, at 8:15 o'clock.

PROGRAM

The Army Medical Corps as a Career and Its Relation to the Civil Profession. Surgeon General Robert U. Patterson.

JOHN HOMANS, M.D., *Secretary.*

SOCIETY MEETINGS CONGRESSES AND CONFERENCES

April, Autumn—International Postgraduate Courses in Berlin. See page 1169, issue of December 10.

April 8—Cancer Meeting at Lawrence. See page 714, issue of March 31.

April 8—William Harvey Society. See page 715, issue of March 31.

April 8, 15 and 22—Thomas W. Salmon Memorial Lectures. See page 650, issue of March 24, and page 763 of this issue.

April 11—Students of Tufts College Medical School to Have a Dinner. See page 714, issue of March 31.

April 12—Harvard Medical Society. See page 768.

April 12—Joint meeting of the Greater Boston Medical Society and the Trudeau Society. See page 768.

April 12—Scuth End Medical Club. See page 715, issue of March 31.

April 13—New England Dermatological Society. See page 768.

April 13—Beth Israel Hospital House Officers' Alumni Association. See page 767.

April 14—Medical Clinic at the Peter Bent Brigham Hospital. See page 763.

April 14—Massachusetts General Hospital (Clinical Staff Meeting). See page 768.

April 15—William Harvey Society. See page 715, issue of March 31.

April 15—The New England Roentgen Ray Society. See page 768.

April 28—The Annual Meeting of the Massachusetts Tuberculosis League. See page 768.

April 29—Massachusetts Psychiatric Society. See page 715, issue of March 31.

May 3—Lecture by Dr. E. V. McCollum (Massachusetts Dental Society). See page 763.

May 6 and 7—The American Proctologic Society. See page 767.

May 9-13—American Medical Association, New Orleans, La.

May 11 - June 1—New England Heart Association. See page 891, issue of October 29.

June 6, 7, 8, and 9—National Tuberculosis Association. See page 598, issue of March 17.

June 8, 9, 10—Massachusetts Medical Society, Hotel Statler, Boston.

June 21-24—Catholic Hospital Association. See page 369, issue of February 18.

July 10 - August 12—The Second Intensive European Summer Course in Surgery, Gynecology and Obstetrics. See page 714, issue of March 31.

September 19-22 — International Congress of Biliary Lithiasis. See notice on page 427, issue of February 25.

October 24-27 — American Public Health Association. See notice on page 1321, issue of December 31.

October 24-28—Inter-state Postgraduate Medical Association of North America. See page 39, issue of January 7.

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

May 11—See page 768.

Essex South District Medical Society

May 5, Thursday—Censors' Meeting, Salem Hospital, 3:30 P.M.

May 10, Tuesday—Annual Meeting. The Tavern, Gloucester. Speaker and subject to be announced later. Ladies invited.

Franklin District Medical Society

May 10—Meeting at the Weldon, Greenfield, at 11 A.M.

CHARLES MOLINE, Secretary.

Middlesex East District Medical Society

May 11 (Unless otherwise announced)—At Woburn.

Norfolk District Medical Society

May—Annual Meeting, date and place to be announced.

May 5—Censors' Meeting for examination of candidates. Roxbury Masonic Temple, 171 Warren Street, Roxbury, 4 P.M. Fee $10.00 payable at time of examination. All candidates will have applications in the hands of the secretary one week prior to this date. All candidates from Medical Schools not on approved list of Society must have application complete two weeks prior to date of examination.

F. S. CRUICKSHANK, Secretary.

Norfolk South District Medical Society

May 5—Annual Meeting at 12 o'clock noon, at the Norfolk County Hospital, South Braintree. Censors will meet on May 5 at 11:15 A.M. at the Norfolk County Hospital.

N. R. PILLSBURY, Secretary.

Suffolk District Medical Society

April 27—The Annual Meeting, Boston Medical Library. Election of Officers.

The Medical Profession is cordially invited to attend this meeting.

REGINALD FITZ, M.D., Vice President.
LELAND S. McKITTRICK, M.D., Secretary.

Worcester District Medical Society

Wednesday evening, April 13—Grafton State Hospital, North Grafton, Mass. 6:30—Dinner, complimentary by Grafton State Hospital. 7:45—Program.

Wednesday afternoon and evening, May 11—Annual Meeting. Program to be announced later.

ERWIN C. MILLER, Secretary.

BOOK REVIEWS

Schizophrenia. By Helge Lundholm, Ph.D., Associate Professor of Psychology, Duke University. Duke University Press, Durham, N. C. 1932.

This monograph which is Duke University Psychological Monograph No. 2 should be read in connection with the No. 1 monograph by the same author on The Manic-Depressive Psychosis which is written, as Professor William McDougall states in the foreword, by one who "is neither a psychiatrist nor a psychoanalyst, but what for the purpose of promoting our knowledge of the human mind and its disorders is far better, namely, a well-trained and open-minded psychologist, who for many years has devoted himself to pure research among the patients of a large mental hospital". He also belongs unequivocally to the school of thought which is now coming to be known as the hormic school of psychology, of which Professor McDougall is a leader. It is also interesting that in his preface the author states, "I make no comments on or references to psychoanalytical views of schizophrenia. This is not because I am unfamiliar with them, but rather because at present I have not been able to convince myself sufficiently of their validity."

In brief, his thesis is as follows: Personalities can be divided into constitutional "A" and "E" tendencies or dispositions which develop altruistic sentiments on one hand and egotism on the other. The manic depressive psychoses and schizophrenias are found among the "E" dispositions. In manic depressive psychosis a toxin similar in nature to a sedative drug and involved with the toxin of fatigue is probably at fault. Under the influence of this toxin the manic depressive psychosis is developed. "Both psychoses have probably constitutional determinants. While the former (manic depressive psychosis) is an acute disease which may set in at any time of life and from which recovery is the rule rather than the exception, the latter is mostly a chronic aberration of personality consisting in a going astray from the very beginning of life, from normal healthy character-formation, a perversion of mental growth which may blossom into an explicit disease syndrome whenever, before the age of about forty, an individual is confronted with some serious problem of adjustment, such as the problem of puberty, the religious problem, or the problem of adaptation to marital life."

The schizophrene, in addition to being born with an "E" disposition, "is born, too, with this peculiar trait that characterizes the hysterical individual, this mysterious 'X' of which we only know that it predisposes a man to develop a very specific state

of subconscious inhibition which by modifying the meaning of experience produces a disease-symptom that is not merely a partial reflection of the context of a complex".

This "X" the author suggests may be an endocrine product. He might have gone further in his speculations and had "Y" mark the spot in the brain where somatic sensations are correlated and "Z" the spot where environmental adaptation is centralized, and have suggested that the "Y" area is disturbed in the manic depressive psychoses and the "Z" area in the schizophrenes.

Despite the somewhat labored Teutonic style of the author, the monographs are worth reading although the exposition of his argument is not convincing.

Surgical Errors and Safeguards. By Max Thorek, M.D. Published by J. B. Lippincott Company. Price $10.00.

It would be difficult to find a book filled more solidly with sound advice upon vital points in surgery than this excellent production of Dr. Thorek. A large book of 697 pages, well illustrated and indexed, it is overflowing with helpful suggestions and warnings in connection with surgical diagnosis and technique. The author cites various cases in detail, to bring out his points, and does not hesitate to confess his own past mistakes. Though he draws heavily from his own experience, he also alludes freely to the writings of other men, as indicated in an Author Index of three and one-half pages and a Bibliography at the end of each chapter. Starting with three chapters on errors and safeguards in connection with surgical operations in general, in regard to "bad risk" patients, and in regard to transfusion, he then devotes the remainder of the book to a consideration of the surgery of the different parts of the body. Words or phrases which it is desired to emphasize are produced in black type throughout the book—an excellent scheme except for the fact that these are so numerous as to detract a little from the intended effect. On the other hand it can fairly be said that the book is not padded, and that the phrases emphasized are all worthy of it. Illustrations are numerous, and of high quality. X-ray reproductions, photomicrographs, drawings of operative procedures and cuts from classical books on anatomy have been selected and reproduced with a care and a clearness better than the average.

Every surgeon, regardless of his training and experience, when faced with the prospect of tackling an operation which he does not often perform, seeks in the literature the recent writings of those whom he knows to be skilled in that particular work. Not infrequently he is unable to find exactly the advice he wants, though the exposition may be quite comprehensive as a whole. Dr. Thorek, in his crisp, straightforward style, goes straight to the point, picking out just these detailed technical procedures and little tricks of avoiding trouble by foreseeing it and acting accordingly. He has produced a valuable book.

A Hand-Book of Ocular Therapeutics. By Sanford R. Gifford. Lea and Febiger 1932. Price $3.25.

The author has produced a useful and stimulating handbook which deserves a place on the desk of every practicing ophthalmologist. With the utmost candor, he presents methods in ocular therapeutics both new and old, and he pleads for an open mind and careful observation in those who have the responsibility of a large amount of clinical material. The work comprises 262 pages, with an excellent index, ample illustrations, and bibliography. The text is well written, and after reading it one is impressed anew that acumen is just as necessary in therapeutics as in diagnosis.

BOOKS RECEIVED FOR REVIEW

A Clinical Study of the Abdominal Cavity and Peritoneum by Edward Meakin Livingston. Published by Paul B. Hoeber, Inc. 866 Pages. Price $15.00.

Cytology and Cellular Pathology of the Nervous System. Edited by Wilder Penfield. Volume I, II and III. Published by Paul B. Hoeber, Inc. Price $30.

The Rheumatic Infection in Childhood by Leonard Findlay. Published by William Wood & Company. 187 Pages. Price $3.50.

Manual of Bacteriology by Robert Muir and The Late James Ritchie. Revised by Carl H. Browning and Thomas J. Mackie. Ninth Edition. Published by Humphrey Milford, Oxford University Press. 866 Pages. Price $4.75.

A Text-Book of Psychiatry for Students and Practitioners by D. K. Henderson and R. D. Gillespie. Third Edition. Published by Humphrey Milford, Oxford University Press. 595 Pages. Price $4.50.

Biochemistry in Internal Medicine by Max Trumper and Abraham Cantarow. Published by W. B. Saunders Company. 454 Pages. Price $5.50.

Clio Medica. Edited by E. B. Krumbhaar. VI. Italian Medicine by Arturo Castiglioni. Published by Paul B. Hoeber, Inc. 134 Pages. Price $1.50.

Transactions of the American Gynecological Society. Volume 56 for the year 1931. Edited by Floyd E. Keene. Published by The C. V. Mosby Company. 274 Pages.

Geburtshelfer und Röntgenbild by Univ.-Professor Dr. Wilhelm Liepmann and Dr. Gerhard Danelius. Published by Urban & Schwarzenberg. 270 Pages.

Arbeiten aus der dritten Abteilung des Anatomischen Institutes der Kaiserlichen Universität Kyoto. Edited by Prof. Dr. Seigo Funaoka. Serie C—Experimentelle Tuberkuloseforschung — No. 2. 108 Pages.

The Aetiology of Tuberculosis by Dr. Robert Koch. Translation from the German. Published by the National Tuberculosis Association. 48 Pages. Price 50c.